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SEVENTEENTH ANNUAL REPORT

UNIVERSITY OF MARYLAND

EXTENSION SERVICE

TECHNOLOGY AND SCIENCE ROOM

FOR THE YEAR 1931

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Cooperative Extension Work in Agriculture and Home Economics,
Extension Service, University of Maryland, and the
United States Department of Agriculture
Cooperating.

T. B. SYMONS, Director

Distributed in furtherance of acts of Congress of
May 8 and June 30, 1914.

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*A. F. VIERHELLER	Specialist in Horticulture.
*C. E. WISE	Asst. Specialist in Agricultural Engineering.

* In cooperation with U. S. Department of Agriculture.
† Part-time specialists.

COUNTY DEMONSTRATION AGENTS

County	Name	Headquarters
Allegany	*R. F. McHenry	Cumberland
Allegany	*Milo Downey (Assistant)	Cumberland
Anne Arundel	*S. E. Day	Annapolis
Baltimore	*H. B. Derrick	Towson
Baltimore	*W. H. Carroll (Assistant)	Towson
Calvert	*J. B. Morsell	Prince Frederick
Caroline	*W. H. Evans	Denton
Carroll	*L. C. Burns	Westminster
Cecil	*J. Z. Miller	Elkton
Charles	*P. D. Brown	La Plata
Dorchester	*W. R. McKnight	Cambridge
Frederick	*H. R. Shoemaker	Frederick
Garrett	*J. H. Carter	Oakland
Harford	*H. M. Carroll	Bel Air
Harford	*G. W. Clendaniel (Assistant)	Bel Air
Howard	*J. W. Magruder	Ellicott City
Kent	*J. D. McVean	Chestertown
Kent	*Stanley Sutton (Assistant)	Chestertown
Montgomery	*O. W. Anderson	Rockville

(Continued on Third Cover Page)

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FOR THE

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SEVENTEENTH ANNUAL REPORT

UNIVERSITY OF MARYLAND

EXTENSION SERVICE

FOR THE

YEAR 1931

LETTERS OF TRANSMITTAL

DR. R. A. PEARSON,
President, University of Maryland:

I have the honor to submit herewith the Seventeenth Annual Report covering the work of the Extension Service of the University of Maryland, in cooperation with the U. S. Department of Agriculture, for the calendar year 1931, together with a financial report for the fiscal year ending June 30, 1931.

Respectfully submitted,

THOMAS B. SYMONS.
Director, Extension Service.

January 1, 1932.

HON. S. M. SHOEMAKER,
Chairman, Board of Regents:

In accordance with the requirements of the Act of Congress, approved May 8, 1914, and known as the Smith-Lever Act, I have the honor to transmit herewith, for submission to the Governor of the State, the Seventeenth Annual Report covering the work of the Extension Service of the University of Maryland, in cooperation with the U. S. Department of Agriculture, for the calendar year 1931, together with a financial report for the fiscal year ending June 30, 1931.

Respectfully submitted,

R. A. PEARSON,
President.

January 1, 1932.

TO HIS EXCELLENCY ALBERT C. RITCHIE,
Governor of Maryland:

I have the honor to transmit herewith the Seventeenth Annual Report covering the work of the Extension Service of the University of Maryland, in cooperation with the U. S. Department of Agriculture, submitted to me through the President of the University.

Respectfully submitted,

S. M. SHOEMAKER,
Chairman, Board of Regents.

January 1, 1932.

SEVENTEENTH ANNUAL REPORT

OF THE

UNIVERSITY OF MARYLAND

EXTENSION SERVICE

FOR THE YEAR 1931

By THOMAS B. SYMONS, *Director*

Introduction

MARYLAND Agriculture has withstood with fortitude the setbacks incident to adverse economic conditions that have confronted farming interests, as well as other lines of industry and business, during the year. In a number of respects, the farming industry of the State is in better condition than in many sections of the country. With certain exceptions, the year can be characterized as a year of good yields and low prices for farm products.

Effects of the severe drought of 1930 extended over into the present year, particularly in the shortage of feed for farm animals during the early months. Abundant crop yields of this season, however, greatly ameliorated the situation. In the case of a number of products, better than average yields served to lessen somewhat the effect of low prices. Although there was great shortage of funds with which to purchase supplies and materials not produced on the farms, practically all those in the rural sections were well supplied with food for their families and feed for farm animals after this year's products were ready for use.

The year was most unusual in regard to both temperature and precipitation. Fortunately, there was sufficient moisture at proper periods to produce good crops of most kinds, although the rainfall for the year was below normal. According to John R. Weeks, Meteorologist for Maryland, "The rainfall to December 15, at Baltimore, was 39 inches, which is a little below normal. Of this, however, 21 inches fell in 15 heavy showers,

or rains, and six of these were in the summer. The normal number in summer is less than three such showers and the normal for the entire year is 10. Deducting the shower rains, the total for the year is 3.31 inches less than in 1930, the driest year in 114 years, though four other years had nearly the same rainfall."

Crop Yields and Values

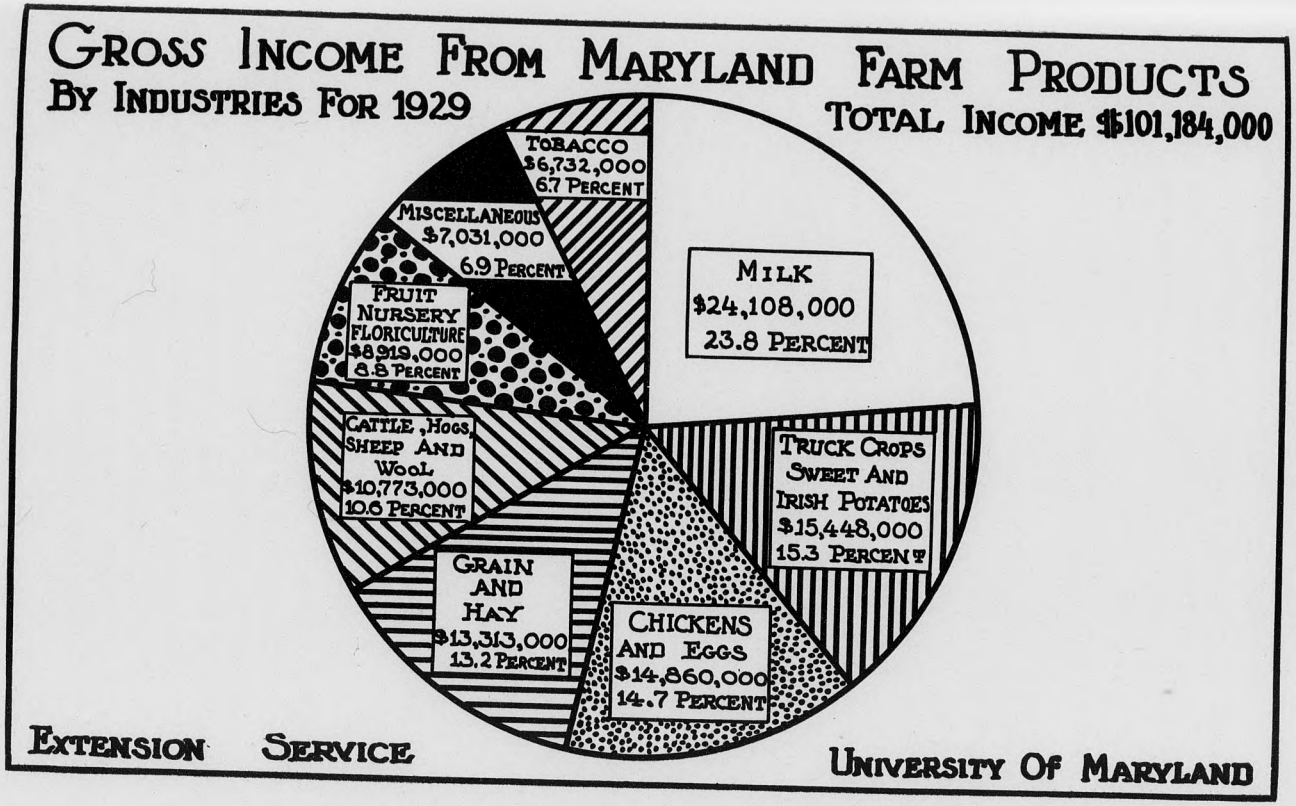
THE total farm value of the principal field, fruit and truck crops grown in Maryland in 1931 is estimated at $39,460,000 by the Division of Crop Estimates of the U. S. Department of Agriculture, compared with $41,044,000, the value of the same crops in 1930. In 1929, the estimated farm value of these crops was $62,556,000. Due to extreme drought, the yields of most crops in 1930 were far below average, whereas in 1931 the yields were in most cases up to average, or above. Notwithstanding this fact, the low prices for farm products in 1931 resulted in smaller total income to farmers than they received for their short crops in the drought year of 1930.

The acreage planted in corn was increased about 37,000 acres above that planted in 1930 and, with the high yield of 38 bushels per acre, the total production was 20,710,000 bushels. This is three times the total yield of corn obtained in 1930 but, due to the low price, the crop was valued at only $8,284,000 compared with $6,378,000 for the preceding year.

The wheat acreage was about 76,000 acres less than in 1930, but the yield per acre was slightly higher. Total production was 9,696,000 bushels, compared with 11,063,000 bushels in 1930. Low prices for wheat, however, reduced the total value of the crop more than three million dollars below the value in the preceding year.

A large increase in the acreage of oats and high yield per acre brought the total value of that crop above the two preceding years in spite of lower prices. Acreage of barley and rye was also increased and yields per acre were above average, but low prices resulted in reduced income from these crops.

The farm value of the potato crop was about a half million dollars less than in 1930, although the production was much greater, and it was more than two million dollars less than the value of the 1929 crop, when production was approximately the


GROSS INCOME FROM MARYLAND FARM PRODUCTS
BY INDUSTRIES FOR 1929
TOTAL INCOME $101,184,000
TOBACCO
$6,732,000
6.7 PERCENT
MISCELLANEOUS
$7,031,000
6.9 PERCENT
FRUIT
NURSERY
FLORICULTURE
$8,919,000
8.8 PERCENT
MILK
$24,108,000
23.8 PERCENT
CATTLE, HOGS, SHEEP AND WOOL
$10,773,000
10.6 PERCENT
TRUCK CROPS
SWEET AND
IRISH POTATOES
$15,448,000
15.3 PERCENT
GRAIN
AND
HAY
$13,313,000
13.2 PERCENT
CHICKENS
AND EGGS
$14,860,000
14.7 PERCENT
EXTENSION SERVICE
UNIVERSITY OF MARYLAND

same. With 32,000 acres planted in potatoes, the total yield was 3,360,000 bushels and the value was $1,848,000.

Yields of all orchard crops were good. More than twice as many apples and peaches were produced as in 1930 and the production of pears was almost double that of last year. Because of low prices that prevailed, the combined value of the three crops was only about 17 percent greater than in the preceding year.

Only one-half as many tomatoes were produced for canning as in 1930 and their value was only a little more than one-third as great. The yield of sweet corn for canning was higher than in either 1930 or 1929 and the value per acre was the highest for the three years. Cantaloupes gave a good yield, but low prices kept the total value of the crop at a low figure. Prices for strawberries remained about the same as in the two preceding years, but a low yield resulted in reduced value of the crop.

The livestock industry was not confronted with the serious problems it had to face a year ago. Feed was plentiful and easily obtained. Prices of all kinds of livestock suffered deflation, but lower prices for feed partially offset the reduction by lowering the costs of production. Constant progress is evident in the methods employed in care and management, and in the quality of animals on the farms. Definite steps have been taken toward improvement in the marketing of livestock and it is believed that this move will be very helpful to the industry.

Agricultural and Home Program

AMONG the most outstanding accomplishments of the year was the development, with the cooperation of all farm organizations of the State and other agencies, of a long-time Agricultural and Rural Home Program. Although it was not possible to include all of the many phases of Maryland's widely diversified agriculture, nor all the factors affecting the rural homes of the State, this program sets forth the lines along which the more important phases of the industry may best develop during the next five years and definite goals to be attained within that period. Each county is developing a pro-

gram for the same period, specifically adapted to its needs and problems, and coordinated with the State program as a whole.

The time was especially opportune for launching a program of this nature. Established methods and systems of farming were considerably disorganized by the severe drought and generally unsettled economic conditions. Substantial adjustments were necessary on a large percentage of farms and it was vitally important that these adjustments be made with due consideration of conditions likely to exist a number of years hence, as well as the situation in the immediate future. This program is intended to be of assistance in this respect, as it provides a well-balanced program for safe farming, including the production of food for the farm family, feed for the farm animals and cash income from products placed upon the market.

The far-reaching influence and value of this effort cannot be measured or accurately estimated. In effect, it has resulted in a concise, definite program setting forth the combined judgment of the agricultural leaders of the State as to the lines along which Maryland agriculture and rural home life may best develop. In working out the program, the Extension Service had the cooperation of the Experiment Station and other Departments and Divisions of the University of Maryland, and leaders of the following State Agricultural and Women's organizations: Maryland State Grange; Maryland Farm Bureau Federation; Women's Clubs; Home-Makers' Clubs; Maryland State Dairymen's Association; Maryland and Virginia Milk Producers' Association; Inter-State Milk Producers' Association; Maryland Tobacco Growers' Association; Agricultural Corporation of Maryland; Maryland State Horticultural Society; Maryland Crop Improvement Association; Maryland Stockmen's Association; Maryland State Poultry Association; Maryland Vegetable Growers' Association; Tri-State Packers' Association; and Maryland Beekeepers' Association.

Progress in Marketing

EFFORTS to improve existing conditions and methods of marketing farm products have covered a wider scope and a greater number of commodities than ever before. At appro-

priate places in this report, more or less detailed outlines of marketing projects and activities are given but certain conditions and developments are worthy of special mention.

The cooperative organizations through which Maryland milk producers market their product are deserving of highest tribute for the record they have maintained during the difficult period. Prices received by farmers for milk have continued higher than in other sections of the country and this favorable situation is due in very large measure to the efficient management and excellent service rendered by the three cooperatives serving dairymen in this State—The Maryland State Dairymen's Association, the Maryland-Virginia Milk Producers' Association, and the Inter-State Milk Producers' Association. The fine spirit of cooperation and harmony that has prevailed among these organizations and with the Extension Service and other interested agencies is extremely gratifying and is reacting to the benefit of the dairy industry of the State.

The Maryland Tobacco Growers' Association, a cooperative organization that has rendered excellent service to the tobacco industry for a number of years, made a fine record this year, when tobacco prices were so low in most sections as to yield practically no net return to producers. Closest cooperation has existed between the Extension Service and this organization from its inception.

The Tri-State Packers' Association is another organization with which the Service has enjoyed most cordial relations and which has cooperated admirably in work designed to benefit the canning industry. An exceedingly important development in that field this year was the inauguration, in response to requests from canners, of inspection of raw tomato stock at canning factories, and the purchase of raw product on the basis of established grades.

The Agricultural Corporation continued active in its service to grain growers, notwithstanding the low prices for grain prevailing.

Although the volume of business handled by the State Wool Pool was somewhat limited by generally unfavorably market conditions, the organization continued to function actively.

The possibility of marketing Maryland livestock cooperatively has received consideration for a number of years. Late

in 1931, definite steps were taken toward the formation of a cooperative livestock marketing association, which would be affiliated with the National Association set up under the auspices of the Federal Farm Board. Many conferences were held and much preliminary work was done by the agencies interested, with the result that at the end of the year it seems assured that an organization will be completed and ready to function in the very near future.

Conferences were held and preliminary surveys were made, looking to the formation of cooperative marketing associations for handling a number of other farm commodities. In some cases, the results are promising and will be followed with more specific efforts to develop satisfactory systems of marketing cooperatively.

Work along the line of grading and standardizing farm products continued to be one of the most important and most effective activities of the Service. This work grows from year to year and is bringing about a decided improvement in the quality of products placed upon the market.

Two marketing tours, conducted in cooperation with the Baltimore and Ohio and the Pennsylvania Railroads, gave groups of farm leaders from the majority of counties an opportunity to observe and study at first-hand the handling of farm products in the terminal markets of New York City.

Cooperation With Bureau of Economics

IT IS further gratifying to report that a cooperative arrangement was made by the Service with the U. S. Bureau of Agricultural Economics for location of the Crop Reporting Service for the State of Maryland at our College Park headquarters. It has been our desire for several years to effect such arrangement as it provides for assembling State statistics and coordinating our crop reporting and outlook service with the Department representatives in a most satisfactory manner.

A specialist of this Service in the economic field was allocated to this work, and is working jointly with the Government statistician on statistics and crop estimates for the State.

It is believed that this is an exceedingly forward step in providing a permanent development for taking and assembling crop and livestock statistics in the State and counties.

"Peach Time In Maryland"

WITH an abundant crop of peaches in this State and with similar abundance in all other sections of the country, an acute situation was presented our peach growers in disposing of their crop. It was suggested that the Extension Service, in cooperation with the Baltimore Association of Commerce and other agencies interested directly or indirectly in the peach situation, could render assistance by conducting a special campaign to acquaint people generally with the abundance of peaches and to urge the use of Maryland fruit.

Such a campaign was launched under the slogan "Peach Time in Maryland, Eat Peaches and Cream." By means of radio talks, exhibits, posters, publicity in the public press, and in other ways, the opportunity and desirability of using and preserving Maryland peaches was emphasized to the consuming public of Baltimore City. More than 20,000 copies of a pamphlet were distributed, giving recipes in which peaches could be used and advocating the use of peaches and cream.

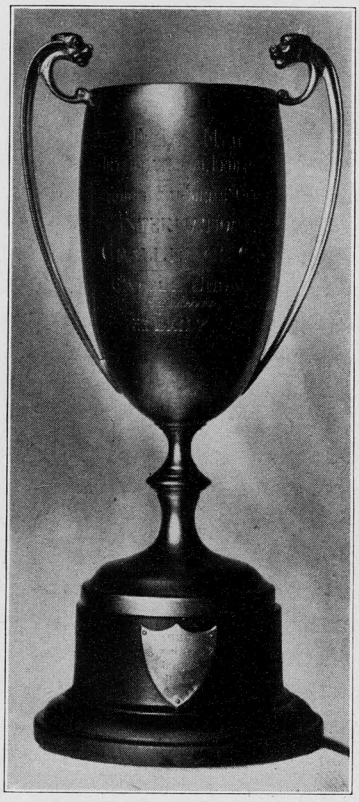
In the portion of this report pertaining to marketing activities, a rather complete statement is given of the plan and scope of this campaign. There is no doubt that a much larger consumption of peaches was brought about by the effort and the stimulation of consumer buying for preserving as well as for immediate use proved a great aid to growers.

In addition to the concrete results of this campaign there are some intangible, but possibly far-reaching effects. Notable among these is the fact that active cooperation was received from a number of agencies which prior to that time were not familiar with the work of the Extension Service and with conditions in the agriculture of the State. The part taken by women in this marketing effort is especially gratifying.

4-H Dairy Cattle Judging Team

SIGNAL honor was won for the United States and for Maryland by the team of 4-H Club boys that represented this country in the International Judging Contest at Warwick, England. Exceptionally high scores were made by the three boys composing the team—William Chilcoat and James Johnston, of

Baltimore County, and Charles Clark, of Harford County. H. C. Barker, specialist in dairying, and H. M. Carroll, County Agent in Harford County, accompanied the team.



Gold cup offered by the London Daily Mail to winner of the International Dairy Cattle Judging Contest. Won in 1931 at Warwick, England, by a Maryland 4-H Club judging team, representing the United States.

The team that makes the best record in the judging contest held in connection with the National Dairy Show becomes eligible to represent the United States in the International Contest. This is the fourth time that a team of Maryland boys has won the high honor, and the third time it has brought home the gold cup, emblematic of championship in the international event.

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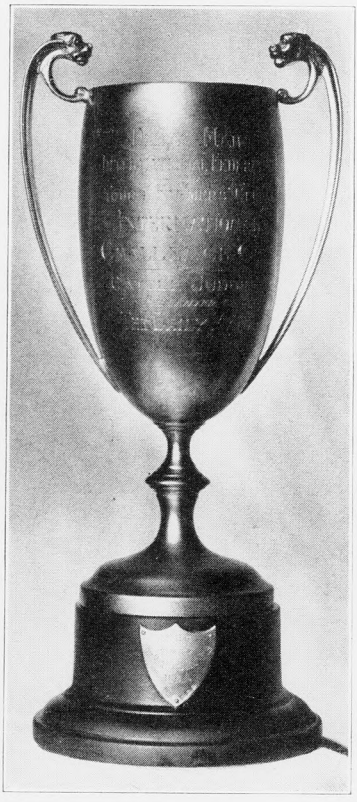

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The trip abroad of the boys and their coaches was made possible by the generous financial support of Governor Ritchie and a number of individuals, organizations and commercial concerns who are sincerely interested in the constructive development and well-being of the dairy industry in the State.

Unemployment Survey

AT THE request of Governor Ritchie our Service made surveys of the unemployment and depression situation in all counties of the State outside of Baltimore City at two dates during the year. It was the aim of these surveys to ascertain the situation in cities and towns, as well as in country districts, and to find out if local agencies would be able to care for the needs that would likely develop during the winter.

A comprehensive report was obtained from each county and these reports were properly compiled and submitted to Governor Ritchie under date of September 10. It was realized that this was rather early in the season to ascertain the probable needs and at the request of the Governor a second survey was made December 1 to 15.

Briefly, it may be said that the surveys revealed no acute situation in any section of the State, save perhaps in one or two counties. Although unemployment was considerably above normal in many sections, in practically all cases local interests were making arrangements to take care of the needy.

Governor Ritchie expressed his appreciation of the thorough and comprehensive reports and it is believed that our Extension forces rendered a very helpful service in collecting this important information.

Home Makers Active

ACHIEVEMENTS of rural women during the past year and the spirit in which they have carried on the work merit special mention. Programs especially planned to meet the economic conditions surrounding farm homes were carried out under the supervision of Miss Venia M. Kellar, State Home Demonstration Agent.

In addition to the lines of work conducted in the past years with a view to increasing the comfort and attractiveness of

rural homes, the home-makers entered enthusiastically into activities designed to adjust necessary expenses to reduced income. Possibly never before, at least not for many years, has so great interest been manifest in working out low-cost diets that adequately meet the nutritional needs of the family and the utilization of home-grown products. Particularly notable in this line is the work done by the women in connection with the campaign to use and conserve the large peach crop. In like manner, remarkable achievements were made in devising ways and means for clothing the family at lower cost.

A home flower garden project, started last year, was carried on by groups in 15 counties with increased activity on the part of the women. Interest in home vegetable gardens, poultry, and dairying, especially in the care of milk, showed material increase. The extent to which women are interesting themselves in marketing and other economic problems is most encouraging.

The Rural Women's Short Course, held each June under the auspices of the Extension Service, was attended by more than 700 women, coming from all counties in the State. With its widely diversified program, it offers the home-makers an opportunity for adult education as well as the inspiration that comes from spending a week on the campus of the State University.

Radio Service

MORE extensive use of available radio facilities was made during the year than in previous years. Commercial broadcasting stations have given excellent cooperation and this means for disseminating timely information on farm and home topics could have been used to a much greater extent if we had sufficient force for preparing and presenting suitable programs.

Regular features were broadcast from four radio stations during all or part of the year, and more than 100 talks were given. The series of special lectures over Station WMAL was continued; for more than half the year lectures were given twice each month over Station WJSV; for six months a program of timely topics of interest to rural people was broadcast each week from Station WRC; beginning in December, a program of "Farm Hints" was prepared and broadcast from Sta-

tion WBAL. In addition, the radio stations in Baltimore gave liberally of their time for daily broadcasts in connection with the "Peach Time in Maryland" campaign.

As Secretary of the Land Grant Radio Committee, cooperation was given the U. S. Department of Agriculture and the National Broadcasting Company in providing programs for the National Farm and Home Hour and National 4-H Club programs, each of which is broadcast over a network of stations once each month. Representatives of this Institution and of the various lines of work in the State have participated in these programs.

National Rural Electric Project

INTEREST in the use of electric power on the farm and in the farm home is constantly increasing, although the rate at which it is adopted has been somewhat curtailed by adverse economic conditions. Since 1928 the Extension Service has co-

Wiring an electrically heated hotbed. One of the new developments in plant propagation recommended by the National Rural Electric Project, which has headquarters at the University of Maryland and is cooperating with the Extension Service.

operated with other forces in carrying on a project known as the National Rural Electric Project, with a view to guiding this development along sound lines. This project is conducted under

a State committee, which includes representatives of farmers' organizations, public utilities, and University authorities. The Director of Extension has served as secretary of the Committee since its organization and Mr. George W. Kable, a widely recognized engineer, is Director of the project.

Five farms of different types were selected on which the use of electric power for the performance of all kinds of services is being tried out and demonstrated. A large fund of practical information has been obtained and considerable effort was made to disseminate results to those who might be interested. Printed publications, articles in periodicals, demonstrations, exhibits, illustrated lectures and radio talks were utilized to this end.

Cooperating Agencies

IT HAS been the policy of the Extension Service to join forces with other agencies when opportunities were offered for constructive work in behalf of the agriculture of the State. I would be remiss if I failed to express sincere appreciation of the fine cooperation given by a number of agencies in carrying on our many activities. The general farm organizations—The Grange and Farm Bureau—have worked in closest harmony at all times and have given their loyal support, and the same is equally true of the various commodity organizations. Maryland may justly be proud of the harmony that exists among the agricultural forces of the State and the effect of such united effort cannot fail to be extremely beneficial to the farming industry.

It has been the aim in this report to give due credit to the several cooperating agencies when discussing the particular projects with which they were connected, but if in any case such credit has been omitted, I take this occasion to record the sincere appreciation of the Service for all assistance received in carrying on its many lines of work.

Production and Value of Crops

IN ACCORDANCE with our custom of former years, a record of the estimated yields and values of Maryland's principal crops is included in the report of the Extension Service. These estimates are furnished by the Bureau of Agricultural Eco-

nomics, U. S. Department of Agriculture, cooperating with our Service, and show the acreage, production, and farm values of the several crops for 1931, with comparable figures for two preceding years. The estimated numbers and value of livestock on farms at the end of the year are also given. *It should be noted that the estimates for 1929 and 1930 are revised in accordance with data obtained in the census of 1930.*

PRODUCTION

Crop and Year	Acres	Per Acre	Total	Unit	Per Unit	Total	Value Per Acre
Corn*							
1931	545,000	38.0	20,710,000	Bus.	$.40	$8,284,000	$15.20
1930	508,000	13.5	6,858,000	"	.93	6,378,000	15.87
1929	499,000	31.5	15,718,000	"	.88	13,832,000	27.72
Wheat							
1931	404,000	24.0	9,696,000	"	.52	5,042,000	12.48
1930	481,000	23.0	11,063,000	"	.77	8,519,000	17.71
1929	506,000	18.0	9,108,000	"	1.18	10,747,000	21.24
Oats							
1931	67,000	30.0	2,010,000	"	.40	804,000	12.00
1930	49,000	30.0	1,470,000	"	.47	691,000	14.10
1929	47,000	28.0	1,316,000	"	.59	776,000	16.51
Barley							
1931	16,000	33.0	528,000	"	.45	238,000	14.88
1930	12,000	32.0	384,000	"	.75	288,000	24.00
1929	10,000	29.1	291,000	"	.82	239,000	23.90
Rye							
1931	21,000	18.0	378,000	"	.50	189,000	9.00
1930	19,000	15.0	285,000	"	.87	248,000	13.05
1929	19,000	12.5	238,000	"	1.10	262,000	13.79
Buckwheat							
1931	7,000	22.0	154,000	"	.47	72,000	10.29
1930	7,000	14.0	98,000	"	.95	93,000	13.29
1929	7,000	18.4	129,000	"	1.00	129,000	18.57
Potatoes							
1931	32,000	105.0	3,360,000	"	.55	1,848,000	57.75
1930	30,000	84 0	2,520,000	"	.95	2,394,000	79.80
1929	30,000	113.0	3,390,000	"	1.20	4,238,000	141.27
Sweet Potatoes							
1931	11.000	183.0	2,013,000	"	.50	1,006,000	91.46
1930	9,000	70.0	630,000	"	.90	567,000	63.00
1929	9,000	181.0	1,629.000	"	.90	1,466,000	162.67
Hay (All Tame)							
1931	381.000	1.23	469,000	Tons	12.00	5,628,000	14.77
1930	369,000	.84	309,000	"	22.80	7,045,000	19.09
1929	372,000	1.30	484,000	"	13.70	6,631,000	17.82

*(Figures shown for corn include corn used for all purposes.)

PRODUCTION—(Continued)

Crop and Year	Acres	Per Acre	Total	Unit	Per Unit	Total	Value Per Acre
Tobacco							
1931	38,000	830.0	31,540,000	Lbs.	.24	7,570,000	199.21
1930	35,000	475.0	16,625,000	"	.29	4,821,000	137.74
1929	33,000	750.0	24,750,000	"	.28	6,856,000	207.76
Apples (Total Crop)							
1931	.....	.....	3,582,000	Bus.	.45	1,612,000	.....
1930	.....	.....	1,650,000	"	.80	1,320,000	.....
1929	.....	.....	2,200,000	"	1.20	2,640,000	.....
Apples (Commercial)							
1931	.....	.....	580,000	Bbls.	1.40	812,000	.....
1930	.....	.....	330,000	"	2.40	792,000	.....
1929	.....	.....	455,000	"	3.55	1,615,000	.....
Peaches							
1931	.....	.....	800,000	Bus.	.60	480,000	.....
1930	.....	.....	300,000	"	1.50	450,000	.....
1929	.....	.....	655,000	"	1.20	786,000	.....
Pears							
1931	.....	.....	149,000	"	.45	67,000	.....
1930	.....	.....	81,000	"	.85	69,000	.....
1929	.....	.....	115,000	"	.80	92,000	.....
Grapes							
1931	.....	.....	682	Tons	.....	.....	.....
1930	.....	.....	673	"	.....	.....	.....
1929	.....	.....	646	"	.....	.....	.....
Tomatoes (For Mfg.)							
1931	38,000	2.0	76,000	"	12.00	912,000	24.00
1930	48,900	3.1	151,000	"	17.40	2,638,000	54.96
1929	44,000	5.1	224,400	"	16.10	3,613,000	79.84
Sweet Corn (For Mfg.)							
1931	39,800	1.8	71,600	"	11.70	838,000	21.06
1930	34,000	.7	23,800	"	14.50	345.000	10.15
1929	44,000	1.4	61,600	"	15.00	924,000	21.00
Cantaloupes							
1931	8,150	90.0	734,000	Crts.	.75	550,000	67.48
1930	7,010	55.0	386,000	"	1.55	598,000	85.31
1929	6,800	85.0	578,000	"	1.45	838,000	123.24
Strawberries							
1931	6,080	60.0	365,000	"	2.75	1,004,000	165.13
1930	9,400	53.0	498,000	"	2.90	1,444,000	154.68
1929	11,750	77.0	905,000	"	2.60	2,353,000	200.26

Livestock on Farms
January 1, 1932

	Number	Value per Head	Total
Horses and Colts	91,000	$68.00	$6,194,000
Mules and Mule Colts	29,000	95.00	2,755,000
Dairy Cows and Heifers	186,000	49.00	9,114,000
Heifers (Under 2 years)	28,000	27.00	729,000
Other Cattle	63,000	25.00	1,571,000
Sheep and Lambs	108,000	5.10	548,000
Swine	160,000	7.50	1,197,000

Administration

THERE has been practically no change in the administration of the Service during the past year. A fine spirit of cooperation exists among all of our workers and our relationships with other divisions of the Institution and the State Department of Education are most agreeable and satisfactory.

We are particularly happy in the relationship that the Service maintains with the farm organizations in the State. All forces are working together in harmony for the promotion of organization consciousness among our farm people to better enable them to solve their many mutual problems. Special efforts have been made in cooperation with organizations, to increase their memberships during the coming year. The cooperative attitude of the State and county farmers' organizations with the members of the Service and the splendid cooperation received from the women are contributing largely to the success of our work in the State.

Several changes have taken place in the field force as well as among specialists at headquarters. On July 1st it became necessary for Dr. F. B. Bomberger, Assistant Director and Chief of the State Department of Markets, to conclude the part time arrangement with the Service and Farm Board. For the past year and a half he had been devoting the major portion of his time to the Farm Board as Assistant Chief of the Division of Cooperative Marketing in Charge of Organization. At the earnest solicitation of the Farm Board, he decided to sever his connections with our Service and devote all of his efforts to the national work. It was with a great deal of reluctance that we accepted his resignation.

Dr. Bomberger has been with the Service since 1917. He has been an able associate in developing the organization of the Service and prosecuting its work. He has ably led the development of the marketing work and as Chief of that Department has contributed much toward the success of cooperative marketing in the State. It is needless to say that the writer regretted to have him sever his connections with the Service.

District Agent, E. I. Oswald, has been promoted during the past year to the position of County Agent Leader. Due to

economic conditions, no additional assistance has been secured for administrative and marketing work.

Successful efforts were made during the past year in strengthening our economic and farm management work. On July 1st Mr. Paul Nystrom was employed as specialist in farm management and he has developed a definite project along these lines that is being carried on in all counties of the State. We feel this will be very fruitful in results.

Progress was made in the development of adult education in our effort to serve the rural people of the State in giving information on subjects other than agriculture and home economics. Limited part-time specialists were added to the force to satisfy the demands that were being made in general educational subjects.

The Service cannot adequately express its appreciation to the Boards of County Commissioners in the several counties, for, notwithstanding the pressure due to decreased receipts in taxes, they have been liberal and sympathetic in providing for the Extension Work in the counties. They are recognizing more and more the necessity for the County Agents as well as Home Demonstration Agents, as reflected in the response that the people of the Counties are giving to their work.

Following are lists of specialists, County Agents and Home Demonstration Agents employed in the Service during the past year:

LIST OF EMPLOYEES AT HEADQUARTERS—1931

*THOMAS B. SYMONS	Director.
*E. I. OSWALD	County Agent Leader.
*E. G. JENKINS	State Boys' Club Agent.
*MISS VENIA M. KELLAR	State Home Demonstration Agent.
*MISS DOROTHY EMERSON	Girls' Club Agent.
*MISS HELEN SHELBY	Clothing Specialist.
*MISS MARGARET McPHEETERS	Nutrition Specialist.
*MISS EDYTHE M. TURNER	District Home Demonstration Agent.
*MISS FLORENCE MASON	District County Home Demonstration Agent.
†GEORGE J. ABRAMS	Specialist in Apiculture.
*W. R. BALLARD	Specialist in Vegetable and Landscape Gardening.
H. C. BARKER	Specialist in Dairying.
†H. E. BESLEY	Asst. in Agricultural Engineering.
†R. W. CARPENTER	Specialist in Agricultural Engineering.
O. R. CARRINGTON	Asst. Specialist in Agr. Journalism.
*K. A. CLARK	Specialist in Animal Husbandry.
*J. A. CONOVER	Specialist in Dairying.
†E. N. CORY	Specialist in Entomology.
†S. H. DEVAULT	Specialist in Marketing.
†H. M. DEVOLT	Asst. Animal Pathology.
†B. L. GOODYEAR	Specialist in Music.
†CASTILLO GRAHAM	Asst. Specialist in Entomology.
†J. W. HEUBERGER	Asst. in Plant Pathology.

*T. D. HOLDER	Specialist in Canning Crops.
*H. A. HUNTER	Canning Crops Pathologist.
†R. A. JEHLE	Specialist in Plant Pathology.
*RICHARD KILBOURNE	Specialist in Forestry.
†DEVOE MEADE	Specialist in Animal Husbandry.
†A. E. MERCKER	Specialist in Marketing.
*PAUL NYSTROM	Specialist in Agricultural Economics.
*F. W. OLDENBURG	Specialist in Agronomy.
†W. B. POSEY	Specialist in Tobacco.
*PAUL A. RAPER	Asst. Poultry Certification.
*W. H. RICE	Specialist in Poultry.
†C. S. RICHARDSON	Specialist in Educational Extension.
*S. B. SHAW	Chief Inspector and Specialist in Marketing.
*PAUL SMITH	Specialist in Crop Statistics.
*M. M. SHOEMAKER	Asst. Specialist in Landscape Gardening.
*A. H. SNYDER	Extension Editor.
†J. W. SPROWLS	Specialist in Psychology.
†W. T. L. TALIAFERRO	Specialist in Farm Management.
†C. E. TEMPLE	Specialist in Plant Pathology.
*A. F. VIERHELLER	Specialist in Horticulture.
*C. E. WISE	Asst. Specialist in Agricultural Engineering.

LIST OF COUNTY AGENTS—1931

County	Name	Headquarters
Allegany	*R. F. McHENRY	Cumberland
Anne Arundel	*STANLEY E. DAY	Annapolis
Baltimore	*H. B. DERRICK	Towson
Calvert	*JOHN B. MORSELL	Prince Frederick
Caroline	*W. H. EVANS	Denton
Carroll	*L. C. BURNS	Westminster
Cecil	*J. Z. MILLER	Elkton
Charles	*P. D. BROWN	La Plata
Dorchester	*WM. R. McKNIGHT	Cambridge
Frederick	*H. R. SHOEMAKER	Frederick
Garrett	*J. H. CARTER	Oakland
Harford	*H. M. CARROLL	Bel Air
Howard	*J. W. MAGRUDER	Ellicott City
Kent	*J. D. McVEAN	Chestertown
Montgomery	*O. W. ANDERSON	Rockville
Prince George's	*W. B. POSEY	Upper Marlboro
Queen Anne's	*E. W. GRUBB	Centerville
St. Mary's	*G. F. WATHEN	Loveville
Somerset	*C. Z. KELLER	Princess Anne
Talbot	*R. S. BROWN	Easton
Washington	*M. D. MOORE	Hagerstown
Wicomico	*J. P. BROWN	Salisbury
Worcester	*R. T. GRANT	Snow Hill

Assistant County Agents

Allegany	*MILO S. DOWNEY	Cumberland
Baltimore	*W. H. CARROLL	Towson
Harford	*G. W. CLENDANIEL	Bel Air
Kent	*STANLEY SUTTON	Chestertown
Montgomery	*A. A. ADY	Rockville
Prince George's	*PERRY E. CLARK	Upper Marlboro

Local Agents

Southern Maryland	*J. F. ARMSTRONG (Col.)	Seat Pleasant
Eastern Shore	*L. H. MARTIN (Col.)	Princess Anne

* In cooperation with U. S. Department of Agriculture.
† Part-time specialists.

LIST OF HOME DEMONSTRATION AGENTS—1931

County	Name of Agent	Address
Allegany	*MAUDE A. BEAN	Cumberland
Anne Arundel	*MRS. G. LINTHICUM	Annapolis
Baltimore	*ANNA TRENTHAM	Towson
Calvert	*ALVERTA MILLER	Prince Frederick
Caroline	*BESSIE SPANFORD	Denton
Carroll	*AGNES SLINDEE	Westminster
Cecil	*PRISCILLA PANCOAST	Elkton
Charles	*MARY GRAHAM	La Plata
Dorchester	*HATTIE BROOKS	Cambridge
Frederick	*HELEN PEARSON	Frederick
Garrett	*MARGARET BURTIS	Oakland
Harford	*CATHARINE MAURICE	Bel Air
Howard	*MYRNE HENDRY	Ellicott City
Kent	*HELEN SCHELLINGER	Chestertown
Montgomery	*BLANCHE CORWIN	Rockville
Prince George's	*ETHEL REGAN	Hyattsville
Queen Anne's		
St. Mary's	*ETHEL JOY	Leonardtown
Somerset	*HILDA TOPFER	Princess Anne
Talbot	*MARGARET SMITH	Easton
Washington	*ARDATH MARTIN	Hagerstown
Wicomico	*MARIAN SWANSON	Salisbury
Worcester	*LUCY WALTER	Snow Hill

Assistant County Home Demonstration Agent

Frederick	*ERNESTINE CHUBB	Frederick

Local Home Demonstration Agents

Charles, St. Mary's, Prince George's and Montgomery	*MRS. ARMINTA W. DIXON	1811 8th St., N.W., Washington, D. C.
Somerset	*MRS. JUSTINE CLARK	Princess Anne

Garden Specialist

Carrollton and Lafayette Aves.	MRS. ADELAIDE DERRINGER	Baltimore, Md.

Sources of Extension Revenue

DURING the fiscal year ending June 30, 1931, there were available for Extension work the following funds: Federal Smith-Lever $56,287.11; State Smith-Lever, $46,287.11; Capper-Ketcham, $25,627.02; Federal Smith-Lever Supplementary, $17,781.38; Additional Federal Cooperative funds funds for General Extension, $12,691.13; State Horticultural fund, $14,699.22; Marketing Extension fund, $11,360.40; Can- $17,000.00; County Demonstration fund, $60,925.74; State ning Extension fund, $10,274.77; Poultry Extension fund, $2,869.29; Dairy Extension fund, $1,500.00; Miscellaneous funds, including Advanced Registry, State Department of For-

* In cooperation with U. S. Department of Agriculture.

estry funds, Marketing Inspection funds, etc., $26,606.91; and $68,322.00 contributed by the various counties; or a total of $372,232.08. In addition, $12,188.00 was used for Japanese Beetle and insect control work, and $18,975.60 was disbursed by the U. S. Department of Agriculture; making a grand total of $403,395.68.

During the present fiscal year ending June 30, 1932, there are available; Federal Smith-Lever, $60,824.48; State Smith-Lever, $46,287.11; Capper-Ketcham, $26,076.69; Federal Smith-Lever Supplementary, $19,202.34; Additional Federal Cooperative fund, $16,000.00; County Demonstration fund, $64,500.00; State funds for General Extension, $17,125.00; State Horticultural fund, $14,275.00; Marketing Extension fund, $13,500.00; Canning Extension fund, $10,000.00; Poultry Extension fund, $3,750.00; Dairy Extension fund, $2,437.50; Tobacco fund, $1,875.00; Beekeeping fund, $1,125.00; State Dairymen's fund, $3,750.00; Miscellaneous funds (estimated), including Advanced Registry, State Department of Forestry, Marketing Inspection funds, etc., $20,000.00; and $67,782.00 contributed by the various counties; or a total of $387,710.12. In addition, there are available $25,000.00 for Japanese beetle and insect control work, and $17,980.00 disbursed by the U. S. Department of Agriculture, making a grand total of $430,-690.12.

Change In Personnel

Dr. Frank B. Bomberger resigned June 30, 1931, as Assistant Director, and Chief, Maryland State Department of Markets.

Mr. Richard Kilbourne appointed January 16, 1931, as Extension Forester to succeed Mr. F. B. Trenk, who resigned December 31, 1930.

Mr. Mark M. Shoemaker appointed January 20, 1931, as Assistant Specialist in Landscape Gardening.

Mr. Paul E. Nystrom appointed June 1, 1931, as Farm Management Specialist.

Mr. Charles E. Wise, Jr., appointed June 1, 1931, as Assistant Agricultural Engineering Specialist.

Mr. George J. Abrams appointed January 1, 1931, as Assistant in Beekeeping.

Mr. P. D. Sanders resigned June 15, 1931, as Horticultural Inspector and Specialist. He was succeeded by two Graduate Assistants; Mr. Samuel L. Crosthwait appointed August 10, 1931, and Mr. David H. Brannon appointed August 15, 1931.

Mr. Thomas D. Holder transferred February 1, 1931, from County Agent in Caroline County to Canning Crops Specialist to succeed Mr. L. M. Goodwin, who resigned December 31, 1930.

Mr. Stanley B. Sutton appointed January 16, 1931, as Assistant County Agent in Kent County to succeed Mr. Eugene W. King, who resigned December 2, 1930.

Mr. George W. Clendaniel appointed March 9, 1931, as Assistant County Agent in Harford County to succeed Mr. William H. Evans, who was made County Agent in Caroline County at the same time.

Miss Hilda Topfer appointed June 1, 1931, as County Home Demonstration Agent in Somerset County.

Miss Margaret K. Burtis appointed October 19, 1931, as County Home Demonstration Agent in Garrett County to succeed Miss Elsie M. Benthien, who resigned June 30, 1931.

Mrs. Olive K. Walls resigned June 30, 1931, as County Home Demonstration Agent in Talbot County.

Prof. B. L. Goodyear appointed July 1, 1931, as part-time Specialist in Music.

Dr. J. W. Sprowls appointed July 1, 1931, as part-time Specialist in Psychology.

Mr. J. W. Heuberger appointed July 1, 1931, as part-time Assistant in Pathology.

Mr. D. W. Hookom appointed July 20, 1931, as Graduate Assistant in Insect Control.

Mr. V. C. Howell appointed August 1, 1931, as Graduate Assistant in Insect Control.

Equipment

DURING the past year only such necessary articles of office equipment as typewriters, files, cabinets, etc. have been procured by the Service. No special articles of equipment have been added. In the preparation of charts for the use of our corps of workers much progress has been made, and we now have on file a fair assortment applicable to certain State areas and conditions.

A number of exhibits have been prepared for use at fairs, etc., throughout the State, but the need for more adequate provision to carry on this kind of work is still keenly felt, especially in view of the constantly increasing pressure for such assistance.

Increasing Efficiency of Workers

EACH month a conference is held at headquarters with specialists and supervisors. At such times special developments in the several fields of activity are reported, and in addition, special programs on timely topics are presented for discussion by appropriate leaders.

Group conferences of agents, held regularly in different sections of the State, have proved very beneficial in affording opportunities for discussion of programs of work and for making adequate plans of procedure for emergency matters. It is customary for the District Agents to attend these conferences.

The annual conference of all Extension workers had as its principal theme "Farm and Home Management," in connection with which an interesting presentation was made of economic data collected from one of the counties of the State. It was aimed to have at least five in each county adopt a standard method of farm accounting during the year.

Records of Office Work

AN EFFICIENT force has been able to meet the increasing demands caused by the growth of the Service. Directly supervising this office force is Miss K. G. Connolly, Administrative Assistant, who assists in detail administrative matters and also takes pride in maintaining the financial records of the Service. During the year a total of 68,146 first-class letters were mailed from headquarters, while the total pieces of mail numbered 145,268. In all, 371,004 first-class letters and pieces of mail were sent by the Extension Service throughout the State.

PUBLICATIONS

IN OUR endeavor to extend the benfits of the Service to as large a percentage of the people of the State as possible, publications of various kinds, the public press and radio have had an important part. These facilities have contributed materially to almost every phase of Extension activities.

Approximately 70,000 copies of bulletins, circulars, and information cards were published during the fiscal year ending June 30, 1931, with a combined total of 510 pages. In addition, a large volume of miscellaneous printed and mimeographed material was prepared and issued. The *Extension Service News,* a four-page publication was issued each month and sent to a mailing list of about 4,200. The purpose of this publication is to keep an important group of local leaders and leading farmers and home-makers throughout the entire State in

close touch with the work being planned and carried on by the Extension Service and provide them information especially adapted to their needs.

News Service—News releases were sent regularly each week to the public press and all important events and developments were covered by special releases. More than 200 releases were prepared and sent to the weekly papers. The greatest progress made in 1931 compared with former years was in the amount of material used by the daily press of the State. Much greater space was devoted to news of important events in the Extension Service program and agricultural affairs in general than in any former year. An event which brought nation-wide publicity to Maryland and the Extension Service was the winning of the International Dairy Cattle Judging Contest by a team of Maryland boys. In addition to publications in this State, stories and pictures regarding the event were carried by all the principal news services and by a large number of publications throughout the United States.

Regular features are furnished to two farm papers with large circulation in Maryland.

Illustrations—Demand for visual instruction material for use by specialists and county agents has shown a large increase. Particularly is this true as regards the use of charts and graphs in presenting facts and information. A large number of exceedingly fine charts and graphs were prepared during the year. Other forms of illustrative material, such as film strips, lantern slides, and motion pictures, are used increasingly and some addition to our available supply of those kinds of materials was made in 1931. We still have great need for facilities whereby timely photographs can be obtained and the development of visual instruction aids is seriously hampered by this need.

The Extension Service is indebted to Mr. Reuben Brigham and members of his staff in the Visual Instruction and Editorial Section of Cooperative Extension Work, U. S. Department of Agriculture, for their cooperation in obtaining a large number of excellent photographs.

Radio—Four commercial radio stations cooperated with the Service during all, or a part of the year, in broadcasting short

talks on timely farm and home topics. These stations are WRC and WMAL, in Washington; WJSV, in Alexandria, Va; WBAL, in Baltimore. Including the talks given in connection with the "Peach Time in Maryland" campaign, and miscellaneous talks not on one of the regular programs, more than 100 talks were prepared and given under the sponsorship of the Extension Service.

Publications Issued—During the fiscal year ending June 30, 1931, the following publications were issued: Bulletin 45, "Forest Planting in Maryland," (reprint), 24 pages, 2,000 copies; Bulletin 48, "The Trig and Trim Club," (reprint), 24 pages, 5,000; Bulletin 52, "Summer Clothes for 4-H Girls," (reprint), 32 pages, 5,000; Bulletin 53, "Maryland Quick Breads," (reprint), 32 pages, 5,000 copies; Bulletin 55, "Home Canning in Maryland," 48 pages, 5,000; Bulletin 56, "Garment Finishes," 32 pages, 5,000; Circular 61, "Brooding and Rearing Chicks," (reprint), 12 pages, 5,000; Circular 66, "The Maryland Poultry House," (revised), 8 pages, 5,000; Circular 74, "Points on Public Speaking," (reprint), 16 pages, 1,000; Circular 77, "Developing and Housing the Pullets," 12 pages, 3,000; Circular 80, "Camps for 4-H Club Girls," 12 pages, 3,000; Circular 81, "It Pays Extra Dividends," 4 pages, 2,000; Circular 82, "Emergency Measures," 8 pages, 5,000; Circular 83, "The Constitution of an Organization and Its Vital Importance," 16 pages, 2,000; Circular 84, "Spraying for Better Fruit," 36 pages, 3,000; Circular 85, "Hay and Pasture Mixtures for Maryland," 4 pages, 5,000; Information Card 29, "How to Control the Mexican Bean Beetle," 4 pages, 5,000; Poultry Calendar, 26 pages, 500; "Recommended Standards," (Marketing) 64 pages, 700; Sixteenth Annual Report, 96 pages, 2,000; Extension Service News issued monthly, 4 pages, 4,200 copies each month.

COUNTY DEMONSTRATION WORK

THIS was an unusual year for County Agricultural Extension Agents as well as all those interested in county demonstration work. Regular routine demonstration activities were much changed and County Agents were compelled to devote much time to emergency activities. The year has, therefore, proved itself one of the most important epochs of Extension

Work in Maryland. Without the assistance of Extension forces in the various counties, it would have been very difficult for the agricultural interests to secure reliable information on existing conditions and to plan their work in advance.

No new additions were made to the County Extension force during the year. With a County Agent in each of the 23 counties and an assistant in six of the counties, county demonstration work is almost completely organized. The six Assistant County Agents devote their time very largely to 4-H Club work, which made it possible to further develop this phase of Extension work.

Notwithstanding the necessary changes in County Extension work, County Agents endeavored to conduct their major activities on a project basis and were successful in accomplishing most of their project work as outlined by the Extension Service of the University of Maryland and the U. S. Department of Agriculture. Such project work was planned more especially on a county basis, considering needs of the individual county or a section of the State, rather than the State as a whole, because agricultural conditions of Maryland are so varied that it is difficult to plan projects which meet conditions of the entire State. In planning these projects, the District Agent and subject-matter specialists worked with County Agents.

A state-wide, long-time Agricultural and Rural Home Program constructed during the year assisted greatly in developing project work, especially in the case of some commodities. By use of this State-wide Program, which sets forth certain goals to be reached in the different projects, it is much easier to determine the goals toward which a given county or section of the State may best direct its efforts.

County Programs of Work—In each of the 23 counties of the State a systematic program of work was definitely outlined and formed the basis of the County Agents' activities. The District Agent, through visits and personal contacts, assisted County Agents in developing all of these county programs. It has always been felt that county programs cannot be followed out successfully without the support and assistance of farm organizations which not only have assisted in making such programs but through their organized efforts and the efforts

of individual members, have assisted in carrying them out. In counties where Granges and Farm Bureaus exist, such cooperation has been very satisfactory. In a few of the counties, where such organizations do not exist, it has been necessary to maintain other forms of rural organization, such as county farmers' federation activities.

Calendar programs were carefully worked out by County Agents, in cooperation with the District Agent in all of the 23 counties. Due to the unusual situation, it was impossible to follow these programs as carefully as had been hoped; quite a number of the activities included in the calendar were either abandoned or changed to the extent that these programs were not as effective as in former years.

Emergency Activities—Not since the inception of Extension work, or at least since the World War, has the County Extension force been called upon to devote a greater portion of time to emergency work than during this year. Effects of the drought in 1930 were far-reaching and, together with the economic situation affecting agriculture, these emergency activities were most important. The Feed, Seed and Fertilizer Loan required a liberal portion of the Agents' time during the period of making of these loans. The County Agents acting as secretaries of county committees, were called upon to do much of the clerical work necessary in securing such loans, which totaled for the State more than $105,000. The unemployment situation also engaged a portion of the time of County Extension Agents who were called upon by the Governor of the State to make very complete and comprehensive surveys of the unemployment situation in the several counties. Agents were also called upon, in the emergency, to assist both farmers and organizations in securing markets for many farm commodities.

Marketing Activities—As Extension work progresses, more emphasis is placed on marketing activities and greater demands for work in this field are made upon the time of the Agents by organized agriculture, as well as individual farmers. Consequently, these workers have broadened their scope of work, as marketing always begins with better production and especially with the grading and packing of farm products. Certification of seed to be placed on the market and the in-

spection of products also engaged a liberal share of the time of Agents. With State-wide and county pools in the marketing of wool and wheat, the County Extension workers rendered valuable service to farmers of their counties. Such activities were in cooperation with the State Farm Bureau, the Maryland Agricultural Corporation and various county commodity organizations, such as the Garrett County Maple Products' Association. Extensive cooperation was given such organizations as the Dairy and Livestock Associations. This cooperation was chiefly through instruction of individual farmers in better marketing methods, the holding of commodity meetings in local communities and efforts to assist farmers in adjusting production to market demands. Goals set forth in the long-time marketing program were considered in these activities.

Tours—Tours have played an important part in Extension Work and have been an excellent medium for teaching better methods of agriculture. For this reason, a number of successful tours were conducted during the year. In some instances, these tours included all of the counties in a large section of the State such as Farmers' Marketing Tours of New York City markets conducted in cooperation with the Baltimore and Ohio and Pennsylvania Railroads.

Some of the tours conducted were inter-county tours, where County Agents cooperated with each other and planned to have their farmers visit Extension projects in adjoining counties. In still other instances, tours were confined to counties or individual communities, where small groups of farmers and their families would visit other farms and inspect demonstrations in improved methods of agriculture.

Special Campaigns—In an effort to solve some of the emergency problems, some special campaigns were arranged with the hope of emphasizing either greater consumption of products or the more economical production of the commodity. These campaigns were aided by newspaper publicity, circular letters, radio talks, addresses at businessmen's clubs, meetings of farmers and the holding of well-planned demonstrations.

Visual Instruction—Realizing the importance of better and more adequate visual aid in Extension activities, a special effort was made to acquaint County Agents and Extension

Workers with photography and its application in teaching work. Three photographic schools were held in strategic locations during the year for the purpose of giving Extension workers a course in photography. These schools gave information in the use of cameras, selection of the subject and in the use of illustrative materials. A number of film strips dealing with State-wide and county projects were taken and organized. Series of charts were prepared for use in the various counties, dealing principally with county conditions and showing county statistics. Six individual counties and two groups of counties were assisted in the purchase of film strip projectors. These, together with motion picture projectors and stereopticons, provide excellent facilities for visualization in all of the twenty-three counties.

Special Demonstration Projects—New demands are made each year for special demonstration projects, some of which are State-wide and others are confined to counties or groups of counties. These projects are usually very important factors in carrying on Extension work and in coping with the problems of Maryland agriculture. Among these special demonstration projects were the potato improvement project in Worcester, Somerset and Garrett Counties; seed potato certification in potato growing sections; cloth-covered plant beds in tomato growing counties; better marketing of cantaloupes, standardization and inspection of fruits and vegetables; demonstration of better grading of raw products for canning factories; marketing of maple products; sale of purebred livestock; building of more and better silos and improvement of farm buildings; increased use of safe bull pens; elimination of low producing individuals in dairy herds; clean chicks campaign; and improvement of permanent pastures.

In promoting all of these special projects, every possible method of publicity was employed and materials and assistance of all kinds were placed at the disposal of the County Extension force.

SUMMARY OF COUNTY AGENTS' WORK

Number of farm visits made in conducting Extension work	18,349
Number of calls on agents for assistance	49,279
Number of individual letters written	36,002
Number of demonstration meetings held	1,963
Number of people who attended demonstration meetings	36,560
Number of other cooperative educational meetings held	1,893
Number in attendance at these meetings	296,089
Number of training meetings held for local leaders	77
Number in attendance at these meetings	712

NEGRO WORK

THE Extension Service has maintained four colored workers during the year, two men and two women. Activities of these workers were not confined to county lines, but were assigned to sections of the State where the colored population was greatest and need for this type of work was most urgent. A man and a woman worker are located on the Southern Eastern Shore of Maryland and confine their activities principally to Somerset and Wicomico Counties. Another man and woman worker are located in Southern Maryland and confine their activities largely to the five Southern Maryland Counties. Work with the colored people functions very much the same as with whites. Agents conduct demonstrations along project lines, hold meetings and farmers' institutes on a county-wide and community basis and organize and maintain 4-H Clubs. The 4-H Club work done by these workers has grown during the past year and is considered an important phase of colored work. Special campaigns and demonstrations were conducted in the different communities with the hope of bettering their living conditions. The whitewash campaign on the Eastern Shore, which in the past was successful, proved very successful again this year. The Eastern Shore branch of the University of Maryland, located at Princess Anne, cooperated in holding Extension activities and assistance was given in the holding of schools and short courses. The District Agent and specialists' activities have been extended to colored workers, as well as to the whites, and supervisory visits were made.

HOME DEMONSTRATION WORK

HOME demonstration activities in 1931 were rich in achievements. The objective was to help increase comfort and satisfaction in each home which is influenced either directly or indirectly by the Extension Service. The organization for carrying on this work with the rural homes of Maryland consisted of a State staff of six members, twenty-three county home demonstration agents, and two colored home demonstration agents. In addition, the home demonstration agents had the services when needed of the following specialists: Dairy, poultry, horticulture and landscape gardening. Project demonstrators had an important place in helping to carry on Extension programs and making new contacts. Training schools were conducted by the agent or specialist for the purpose of training the demonstrators.

Experience has shown that more homemakers are reached through group meetings. Subject matter in the form of demonstrations is presented to the groups either by the agent or project demonstrators. Twenty-one counties held 372 training schools for project demonstrators. One thousand two hundred and twelve project demonstrators held 1,434 meetings with an attendance of 19,773.

Community Activities—Practically every county has its organizations of Granges and Farm Bureaus which plan their programs around community needs. The home demonstration

Recreation at a club meeting.

agent cooperated with these organizations in all community work. In most counties she assumed responsibility for the recreational part of the program.

Projects—The counties were divided on project work last year—some carried foods and nutrition, while others carried clothing. Fifteen counties were interested in the Family Flower Garden project. This project has been carried entirely by project demonstrators. Five counties held from one to two-day flower shows. Three counties had county flower tours which visited the best flower gardens and landscaped homes in the counties. The flower garden project is surpervised by the Landscape Gardening Specialist, the two district agents and home demonstration agents.

Achievement Days—Forty-five achievement days were held in 17 counties. In addition to achievement days, counties held from two to four county or district meetings. At these meetings either the agent or specialist gave a demonstration relating to the project. Some of the demonstrations were in chicken canning, culling, food scoring for market use, children's clothing, and so forth.

Rural Women's Short Course—The Extension Service, in cooperation with the University, sponsors the annual Rural Women's Short Course which is held each year the third week in June. Over 700 women, representing every county in the State, attended the Course in 1931. The program, through its lectures and demonstrations in home economics and cultural subjects, is planned to give help and inspiration to homemakers of the State. It is diversified to meet the needs of all women. County leaders attending this course return to their counties and through demonstrations, talks and personal contacts help other club members as well as inspire them to attend the Short Course. This Course offers to all women an opportunity for help in adult education as well as the inspiration that comes from spending a week on the campus of their State University.

News Letters and Publicity—All county home demonstration agents send news letters to club members plus a mailing list of women who are not in Extension groups. These letters contain club news of importance, county Extension news, and

some subject matter. There was a total of 1,955 news articles reported by counties for 1931.

Campaigns—From August 15th to September 1st a peach campaign was put on in every county, as well as in the City of Baltimore, for the purpose of educating Maryland people to the value of Maryland's fine peaches and to help, if possible, to dispose of the unusually large crop of peaches.

Cooperation was given to the Beekeepers in celebrating National Honey Week November 9 to 13.

Bulletins, Leaflets and Circulars—Valuable subject matter material to be used in relation to projects was published by the Home Demonstration Department the past year.

Outlook—With the records of a successful year behind, and a definite five-year program for a goal ahead, home demonstration work should, with its corps of trained workers and help of fine unselfish project leaders, accomplish greater things in the future for the rural homes of Maryland.

Following is a summary of home demonstration work for the year as reported by the county home demonstration agents:

Summary

		Colored
Number of homemakers' clubs and project groups	331	31
Number of women enrolled in homemakers' clubs and project groups	7,764	504
Number of counties having county organizations of rural women or homemakers' clubs	17	
Number of county achievement days	45 (17 counties)	
Number of women attending Rural Women's Short Course		
Registered full time 525 (Including 23 day students and 17 home demonstration agents)		
Visitors 200		
Number of home visits made in conducting Extension work	4,974	262
Number of calls on agents for assistance:		
Office	5,031	220
Telephone	12,280	36
Number of news articles or stories published	1,955	
Number of individual letters written	17,634	622
Number of different circular letters prepared (Not total copies mailed)	1,224	17
Number of bulletins distributed	42,730	8,070

Number of radio talks made	2	
Number of events at which Extension exhibits were shown	62	15
Number of training meetings held for local leaders or committeemen:		
Adult work	372	
Total men leaders attending	46	
Total women leaders attending	2,699	
4-H Club work	102	
Total leaders attending	677	
Number of local leaders or committeemen actively engaged in forwarding the Extension program:		
Adult work (Women)	1,212	
4-H Club work (Women and older club girls)	223	
Number of counties holding training schools for women	21	
Number of method demonstration meetings held (does not include meetings reported above)	4,518	721
Attendance	68,563	9,753
Number of meetings held as result demonstrations	89	
Attendance	1,670	
Number of tours conducted	13	
Attendance	995	
Number of achievement days held:		
Adult work	45	10
Attendance	4,572	1,235
4-H Club work	103	7
Attendance	5,045	673
Number of 4-H Encampments held	10	1
Attendance	384	43
Number of other meetings of an Extension nature participated in and not previously reported	1,592	61
Attendance	108,275	6,903
Number of meetings held by local leaders or committeemen not participated in by agent and not reported elsewhere:		
Adult work	1,434	10
Attendance	19,773	21
4-H Club work	770	15
Attendance	8,868	68

CLOTHING

THE standard of dress of farm families is higher than it was ten or fifteen years ago. Cost of clothing records show that this is not due to an excess expenditure for clothes, but to better judgment in buying, more careful grooming, improved skill in making clothes at home, more attention to proper care of clothes and utilization of material on hand. Increased self-confidence, poise, self-assurance and happiness have come with the higher standard.

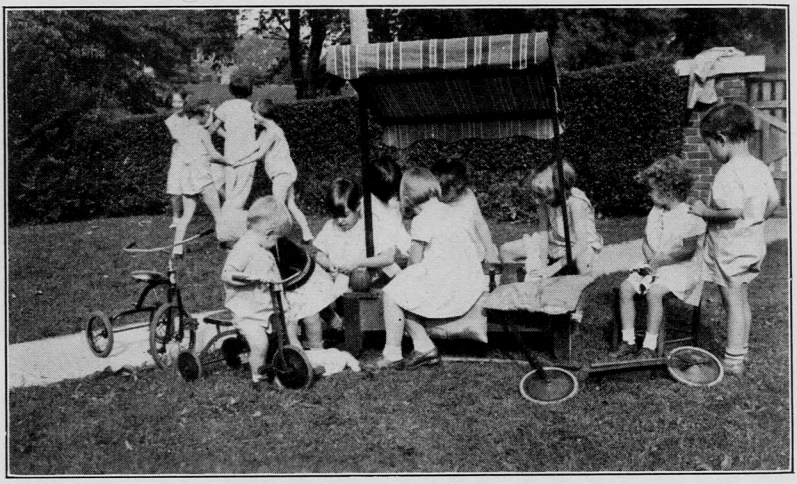
Records of the cost of clothing show that the average per family in 1930 was $268.75 and in 1931 only $134.78. The

number of families keeping a record of the cost of clothing has increased from 600 in 1931 to 2500 in 1932.

Assistance in clothing problems, in buying, in the study of inventories of what is on hand that can be utilized, in construction processes, in selection, renovation and care continues to be in great demand.

Project demonstrators are making it possible to reach larger numbers; 382 project demonstrators assisted with the clothing work, giving demonstrations to 4,140 persons.

While the number of farm families buying ready-made clothing is increasing, there are still many women who have time to sew and feel that making clothes at home is one means of



The children enjoy the play, even though they are dressed up for the occasion in special garments from the Children's Clothing Exhibit.

stretching the dollar. Many mature women have difficulty in finding reasonably priced garments that fit; therefore, they wish to make their own clothes. The demonstrations given in garment finishes, use and alteration of commercial patterns, have tended to raise the standard of the made-at-home garment. Necessity for use of remodeled clothes added interest to the demonstration on construction and emphasized the need

for more information on buying. Reports show that 10,896 garments were made from new and reconditioned material.

Safe and effective dry cleaning methods were established as a means of maintaining a well-dressed appearance at a minimum cost. With the use of cotton for better dresses, synthetic fibers instead of silk, and in some cases washable silk, correct methods for laundering have been stressed. Although these demonstrations were not given until after September, 2,323 garments were cleaned as a result. In Wicomico County 106 women reported saving $256.54 on dry cleaning in the two months following the demonstration.

Outlook—The trend of the clothing project seems to be toward assistance which will aid homemakers and individuals in a solution of the problems involved in the management of clothes, realizing that there is a relation between clothes and individual or family well-being. The homemaker is beginning to realize her helplessness as a buyer to judge the merits of the ever-increasing textile commodities offered her. A project designed to help with the buying problem is in line with the present needs and probably will be stressed in 1933.

FOODS AND NUTRITION

RESULTS of the work in food selection, preparation and preservation are very gratifying. Interest accumulated throughout the project and many women are applying at home the principles learned.

Because money for food was scarce, the homemakers were much concerned as to how they spent it. They were far more careful than ever before to figure low cost diets that meet the nutritional needs of their families.

Excellent gardens were produced in Maryland the past year and homemakers recognized and took advantage of this fact. They preserved in various ways more food than has been preserved in Maryland for many years. They not only provided food for their own future use, but canned and stored much for charitable organizations. There was increased interest in producing better gardens this year.

Some of the outstanding achievements in foods and nutrition for the past year are as follows:

Table of Results

Number of counties in the State	23	
Number of counties taking foods as a major	14	
Number of counties taking foods as a minor	7	
Number of communities reached with foods and nutrition, demonstrations	329	
Number of meetings held in relation to foods and nutrition	1,810	
Number of organized clubs majoring in foods and nutrition project	231	
Number of women enrolled in these clubs	6,182	
Number of project demonstrators in these clubs	288	
Number of news articles published related to foods and nutrition	328	
Number of circular letters written	182	
Number of home visits made related to foods and nutrition	967	
Number of office calls received	2,932	
Number of method demonstrations held	1,597	
Number of counties reporting	19	
Number of homes budgeting food expenditures for a year	298	
Number of counties reporting	5	
Number of homes balancing family meals for a year	2,362	
Number of counties reporting	13	
Number of homes improving home packed lunches according to recommendations	983	
Number of counties reporting	14	
Number of schools following recommendations for hot dish at school	54	
Number of counties reporting	8	
Number of school children involved in preceding question	1,879	
Number of counties reporting	7	
Number of homes using improved methods in child feeding	481	
Number of counties reporting	6	
Number of individuals adopting recommendations for corrective feeding	888	
Number of counties reporting	6	
Number of women planning low cost meals	1,402	
Number of counties reporting	13	
Amount of fruits and vegetables canned	216,086	qts.
Number of counties reporting	13	
Amount of meat canned	20,815	qts.
Number of counties reporting	8	
Amount of preserves, fruit butters, etc.	60,703	qts.
Number of counties reporting	10	
Number pounds meat cured	136,092	
Number of counties reporting	8	
Number bushels stored fruits and vegetables	223,333	
Number of counties reporting	8	

The problem dealt with this year was to meet the present economic situation of feeding the family for good nutrition on the food and money available.

The situation for the first few months of the year was very critical, since there was scarcity of food, money and employ-

ment, which brought about an attitude of depression and failure hard to work with and combat. The tension concerning the food situation was somewhat relieved during the summer as Maryland produced abundant crops and the problem turned to one of utilizing to best advantage the surplus food products.

The solution for the feeding problem was to help the homemakers recognize that the food situation was critical but could be somewhat relieved by good planning, understanding of food needs of the family, wise spending of food money and wise use of surplus products.

Outlook—The past year's work will be continued—that of feeding the family from the farm and using to good advantage surplus farm products. Special emphasis will be given to the cost of food, especially the money value of farm products.

The material on low cost diets prepared by the Bureau of Home Economics and Extension Department of the U. S. Department of Agriculture was of great value in the foods and nutrition program.

DISTRICT AGENTS' WORK

WORK of the two district agents was to help organize activities in unorganized counties and assist in supervising programs of home demonstration agents. Both agents helped in training on subject matter and demonstrations pertaining to refinishing of floors and furniture. They wrote subject matter and planned illustrative material for the flower garden project.

A filing system, a system of office procedure and a plan for reporting to the State office on supervisory visits to the agents was worked out.

The supervisory program consisted of helping the agents with formulating their year's program of work, of attending rallies, or council meetings, where a talk or demonstration on some phase of the work was given. In company with the home demonstration agent, clubs were attended, where the district agent might observe the way in which the work was presented to the group by the agent and the reaction of the women.

Necessity for reaching more people resulted in the district agents working with an agent to develop the use of project demonstrators, in order that the county home demonstration agent might have free time to develop new communities.

GIRLS' CLUB WORK

THE 4-H Club girls enrolled 569 new girls in their clubs, making a total of 4,038 and completed a successful year of achievement.

Clothing club members, using bulletins prepared for them by the clothing specialist, made garments for themselves and others. This particular year they practiced the art of creating attractive made-over garments. Their demonstrations on Care of Clothing and Good Grooming helped them to be well-dressed club members.

At the National 4-H Club exhibit in Chicago a Maryland club girl placed first in the complete outfit class and other clothing exhibits placed high, showing that good standards have been the goal of club girls and leaders.

Food clubs increased 50% in membership and they are acquiring good habits and developing skill in preparing simple meals for the family and good school lunches. Club members planned and prepared meals in the girls' camps this summer, thus gaining added practical experience.

The need for conserving surplus garden and orchard products created a new interest in canning. Canning sent to the National 4-H Club Exhibit received awards amounting to more than $200. Older girls are interested in the Room Furnishing program, finding that rural life is more enjoyable to them when the home is attractively, although perhaps inexpensively, furnished.

Records of older club girls show that they are community-minded, desiring to organize and lead groups of younger 4-H girls and taking part in all activities that are worth while—they are the future community builders.

1931 Statistics

		Colored
Number of girls' clubs	309	45
Number of girls enrolled	4,038*	775
Number of girls active club members for four years or more	629	
Number of jars fruits and vegetables canned	21,684	
Number of local leaders	223	
Number girls attending Club Week	252	

* Total does not include 125 boys enrolled in girls' projects, and working under the instruction of the home demonstration agent.

4-H BOYS' CLUB WORK

BOYS' 4-H club work extended its influence during the year, both by an increase in the number of boys enrolled and by a greater number of projects carried to completion. Enrollment of 2,887 white and 851 colored club members, a total of 3,738, is an increase of 12.5% of white club members (10% of all) compared with 1930. In ten years the enrollment has doubled and the number actually completing projects has increased 157%. The number of projects carried on by these club workers has increased more than 212%.

The number remaining in Maryland club work year after year is most encouraging. Ten percent of the white boys and girls have been in the work more than five years. This means that agents are giving instruction to an increasing number for a longer period and are reaching youth of more advanced years.

Years in Clubs

	1st	2nd	3rd	4th	5th	6th and over
Boys	964	732	680	422	235	140
Girls	132	111	82	54	28	12

Ages of Club Members

	10	11	12	13	14	15	16	17	18	19	20
Boys	298	245	380	428	447	468	407	277	179	115	79
Girls	26	26	68	55	59	58	60	30	22	14	10

Projects—That the greatest increase occurred in home and market gardens indicates a safe and sane policy. Most of these gardens were of real economic value and materially assisted in the difficult conditions existing during the year.

Dairy club membership has led all others for some time. There was not a great increase in this project, due to economic conditions, but work accomplished by club boys was very satisfactory. More cattle were fed and prepared for exhibit, more milk records were kept, more team demonstrations and judging work done, and standards were raised in many counties.

Completions in the poultry project increased 16%. While this is encouraging, the most important development was in the increased number of poultry club members doing worthwhile work, especially in the State "Grow Healthy Chick" and the Farm Poultry Record projects.

While there was no increase in the number of boys completing potato demonstrations, the work gained materially in

extent and influence. Best results were achieved in Garrett County, where the certified seed business is becoming established through 4-H club work. The county agent in that county reports that 56 boys produced 8,700 bushels of certified seed potatoes. One group has a power sprayer which was purchased by the boys with the help of the Baltimore and Ohio Railroad. The specialist in Plant Pathology declares that work along this line with adults in Garrett County results directly from the 4-H club demonstrations.

Much profit came to 111 club boys who raised more than 300 acres of truck or market garden products. Tomatoes, beans and cantaloupes made up the bulk of these products.

The following table reports completions of projects in 1930 and 1931:

	1930	1931		1930	1931
Dairy	719	723	Irish Potatoes	98	99
Poultry	515	566	Tobacco	126	125
Beef Cattle	31	16	Home Gardens	118	264
Swine	244	269	Market Gardens	90	160
Sheep	19	18	Others	69	94
Corn	44	41			

Inspirational and Educational Activities—Any attempt to list the numerous activities conducted by 4-H club members, or in which they participated, must necessarily be quite incomplete.

However, the following tabulation gives some impression of the scope and character of club affairs:

County	Number	Attendance	
Local leader meetings	55	741	
Community and achievement days	21	3,335	
Camps	4	249	
Banquets	11	1,300	
Dairy judging contests	12	.....	
Poultry judging contests	9	.....	
Swine judging contests	8	.....	
Team demonstration contests	12	.....	
Training meetings	24	183	
County Council meetings (nine)	30	.....	
State			
Club Weeks (short courses)	2	700	
Fairs	2	20	counties
Poultry judging	2	11	"
Dairy judging	1	12	"
Tobacco judging	1	5	"
Swine judging	1	8	"
Team demonstrations	2	6	"
Club leaders' conferences	1	100	

Outstanding Achievements—By placing first in the National Dairy Cattle Judging Contest in the fall of 1930, a team of Maryland boys won the honor and privilege of representing this country in the 1931 International Judging Contest. This contest was held in July, at Warwick, England, in connection with the Royal Livestock Exposition. Again this team was awarded highest honors and brought to the United States and to Maryland the gold cup offered by the London Daily Mail.

This is the fourth time a Maryland team has won the honor and distinction of representing the United States in the International Dairy Cattle Judging Contest. Three of these teams have brought back the cup. A record such as this is a tribute to the work being done by 4-H club members along dairy lines.

Club members entered enthusiastically into the programs and made excellent contributions to all such events as Club Week, Timonium Fair, Eastern States Exposition, Marlboro Southern Maryland Fair, eleven county fairs, community exhibits, picnics, achievement days and tours.

One of the outstanding achievements in club work this year was the development of work with older boys, mostly out of school. The five-year program for boys' club work contemplates development of older boys through county groups. This year's goal was reached when nine county organizations and five county councils actually functioned. At Club Week, a group of older boys, following a three days' discussion of youth problems, formulated a set of resolutions or recommendations as a basis for county planning.

A Negro Short Course at Princess Anne was well attended and successful. Daily conferences of local agents with J. B. Pierce, Field Agent of the Department of Agriculture, and the State Boys' Club Agent, resulted in an improved program and in much of the instruction given at the meetings being taken home and put into practice.

Four-H club work was never more generously supported in counties and in the State. Through the influence of Judge Frank I. Duncan, the Maryland State Bankers' Association awarded $1,500 to club enterprises and trips. Several individuals and a score of corporations and State organizations financed the trip of the judging team to Europe.

AGRONOMY

PASTURE failures last year, due to the drought, brought home to farmers the great value of pastures. As a result, there were many demands for demonstrations along the line of establishing and improving pastures.

Ninety-six demonstrations on establishing pastures were conducted in 15 counties, involving 1,600 acres of new pasture. The total acreage of new pasture, no doubt, considerably exceeded this amount. A leaflet, giving the best seed mixtures for each type of soil, was published and distributed widely.

Improvement of pastures by top-dressing continued to be an important line of Agronomy work. It was the principal topic for discussion at the winter meeting of both the Maryland Crop Improvement Association and the Maryland State Dairymen's Association. As a result of this and former work, many farmers tried top-dressing last spring. In Carroll County, 300 acres of pasture were top-dressed and 500 acres received some kind of improvement, as a result of a series of six field meetings and four result demonstrations. In Cecil county, six demonstrations were established.

Emergency Hay Crops—Last winter many Maryland farmers had to buy hay, due to the shortage brought on by drought. Beginning in the fall, a campaign was carried on to induce dairymen and others to adopt practices that would give them hay the following winter. Leaflets were prepared, meetings were held, the topic was discussed at winter meetings of agricultural societies and it was the subject of radio talks. As a result, a surprising acreage of grain was sown to be cut for hay—estimated at approximately 50,000 acres. Much rye was sown for spring pastures and sudan grass was planted for summer pasture and for hay.

Field meetings in five counties and result demonstrations in seventeen counties secured a distinct gain in the acreage of sweet clover to supplement regular summer pasture.

Soybeans, Cowpeas and Other Legumes—Due to clover failure, there was great demand for soybeans last spring. Seed of the varieties especially recommended for Maryland was scarce and valuable assistance was given growers in locating sources

of seed. A large number of result demonstrations in the growing of both soybeans and cowpeas were conducted.

This was a favorable season for alfalfa demonstrations. During the drought last year, farmers saw their pastures dry up, their late hay destroyed and their clover killed out, but their alfalfa lived through it well. Two-hundred and twenty-eight demonstrations were established, with 2,334 acres of alfalfa.

Barley—The importance of growing the Tennessee winter variety was emphasized and sources of certified seed were established in Howard and Talbot counties. Efforts were made to improve both the yield and quality by use of better varieties and by reducing the percentage of smut.

Wheat—Acreage sown in wheat has shown a decline from a peak of 700,000 acres in war time to 514,000 acres in 1928. The acreage reported sown last fall is only 387,000 acres. Yield per acre, however, is increasing. In 1931 there was a record yield of 24 bushels per acre and the average for the last ten years has increased to 19.3 bushels, compared with 15.8 bushels for the preceding ten-year period.

Control of smut or bunt has continued to be a serious problem. A survey of 439 wheat fields showed marked improvement where farmers had taken an active interest in treating their seed. Very successful campaigns were conducted in two counties, which had suffered heavy dockage. About 90% of the seed in Caroline County was treated and 14,000 bushels in Queen Anne's County. This should make a saving of $20,000 to $25,000 to the farmers of these counties from dockage next year.

Top-dressing demonstrations again showed good results—in some cases as much as 15 bushels increase in yield.

Wheat Seed Certification—Assistance was given in the maintenance of good quality, pure seed of adapted varieties. Fields were inspected for purity, freedom from disease and weeds. Later, samples of grain were examined for quality and tested for germination. This work provided more than 3,000 bushels of excellent seed wheat.

Seed Corn—There was much apprehension in the fall and winter of 1930 that there would be a shortage of seed corn,

due to the drought. The Extension Agronomist inspected the corn of a large number of growers who had seed on hand and was able to locate a sufficient supply of fairly good seed to meet the demands for spring planting.

Oats—Progress was made in improvement of the oats crop by encouragement of early seeding and the use of early maturing varieties. These points were emphasized by a large number of result demonstrations. Seed sources were established by: (1) certifying fields, (2) getting dealers to carry recommended varieties, and, (3) locating growers of desirable seed in other states.

Miscellaneous—In addition to the major lines of work, attention was given to many other activities in the field of agronomy. These included considerable lime and fertilizer work, educational exhibits at State and other fairs, demonstrations and visits to individual farms.

ANIMAL HUSBANDRY

WORK in this project during 1931 followed the same general lines as in previous years, except that greater attention was given to problems associated with the marketing of livestock and livestock products. Although emergency problems due to the drought were not as acute as in 1930, the effect of conditions in that year were felt throughout a considerable portion of 1931. The shortage of feed and necessity for modifying rations commonly used in such a way as to utilize feeds that were available required more attention to feeding problems than would be necessary under normal conditions.

Sheep Production—The most important work in this field is the Purebred Ram Sales, which now are located in all sections of the State in such a way that sheepmen can attend without traveling far. Six sales were held in 1931, at which 122 rams were sold to 97 purchasers. During the seven years the purebred ram project has been conducted, nearly 1,000 rams have been placed at the head of commercial sheep flocks in Maryland and the quality of lambs produced has been considerably improved. Early lambs from Maryland are now commanding a premium in Baltimore, Washington, Philadelphia and Jersey City, whereas, several years ago, before the advent of this

work, they did not have nearly as good reputation in slaughter centers as they have today.

The Maryland Ram Shows and Sales are jointly sponsored by the Extension Service and the Maryland Stockmen's Association. Improved methods in the care and management of sheep were encouraged by a large number of demonstrations. These included 22 docking and castrating demonstrations in 14 counties; 8 sheep shearing demonstrations; 26 demonstrations in trimming sheep for show and sale; and 12 demonstrations of internal and external parasite control.

Swine—The most important demonstration is the Maryland Litter Contest. This is the seventh year it has been conducted.

Prize-winning litter in the Maryland Litter Contest, owned by John R. Iager and Son, Howard county. This litter made the exceptional weight of 2,563.5 pounds.

Thirty-seven litters in 11 counties were entered, and 12 litters made the required weight of 1,500 pounds, or more, in 150 days. One litter, that of John R. Iager and Son, Howard County, made the exceptional weight of 2,563.5 pounds, which is the heaviest weight ever reached by a litter in this contest.

This work is conducted by the Extension Service in cooperation with the Maryland Stockmen's Association and the Wm. Schluderberg-T. J. Kurdle Company, meat packers.

Beef Cattle—The outstanding development in beef cattle work was the interest in and establishment of beef cow herds. For some time this type of beef production has been favored, but not until the last year or two have farmers and cattlemen shown decided interest in it. In addition to 12 or more farmers who started beef cow herds, quite a number have bought beef bulls to use on both beef and dairy cows, looking to the development of beef herds by continuance of this breeding-up-process.

Plans were formulated early in the year for an organization of Angus cattlemen and the first purebred Aberdeen-Angus cattle sale ever held in Maryland took place on October 16.

Less emphasis was placed on beef calf club work, owing to the fact that satisfactory calves were high in price and difficult to locate early in the year, and there was also shortage of feed.

Livestock Marketing—All angles of the production work were conducted with the marketing program in mind. An effective demonstration in livestock marketing was furnished by the Baltimore Livestock Show. From its origin, the Extension Service has cooperated with other agencies and assisted in planning and conducting this Show.

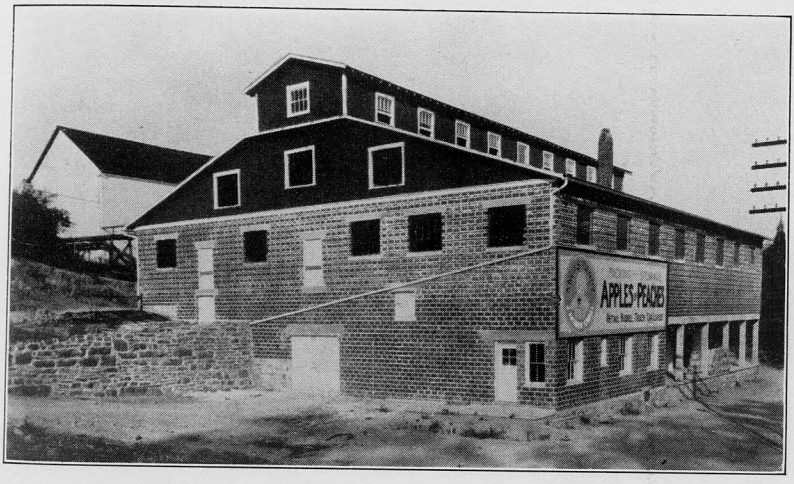
Definite progress was made in the formation of an organization for marketing Maryland livestock cooperatively. Producers in Maryland and in other states of the eastern livestock region did much preliminary work toward formation of an Eastern Livestock Marketing Association. At the close of the year, it appeared reasonably certain that an organization would be perfected and facilities provided for cooperative marketing of livestock early in the coming year.

HORTICULTURE

WORK in horticulture was in line with a five-year program formulated early in 1931. The practices recommended for development of the industry concerned mostly the general adoption of accepted pruning methods, proper use of fertilizers, improvement of fruit growing soils by addition of organic matter, fruit thinning, general improvement of fruit quality and more careful grading and packing.

Yields of practically all fruits were heavier in 1931 than for several years, causing a rather low market and, with lowered buying power of consumers, only the better grades of fruit were profitable. Even this profit varied greatly with type of fruit and season of marketing.

Pruning—Recommended methods of pruning all types and ages of tree, cane and bush fruits were demonstrated in 49 orchards. The improved tree framework, and increased vigor and fruit bud formation resulting from these demonstrations served as practical lessons to several hundred fruit growers. By such pruning, spraying was made more effective and the



One of Maryland's up-to-date apple packing houses. Owned by J. Andrew Cohill.

trees were adjusted to soil moisture supply in such a way as to give larger and better colored fruit.

Fertilizers and Organic Matter—Tree fruits continued to show some effects of dry weather. Heavy crops caused small-sized fruit, unless heavy thinning was done. Under these conditions, the beneficial effect of nitrogen fertilizers and the value of organic matter was very evident in demonstrations along that line. Soil management and related orchard practices, including incorporation of organic matter, was demonstrated in 16 orchards. Nitrogen fertilizer demonstrations were conducted in nine orchards.

Thinning Fruit—Thinning of fruit was practiced extensively this year and is becoming more widely adopted by fruit growers as a regular orchard practice. Its beneficial effect on color, size and quality are unquestionable. During the year, wide publicity was given to fruit thinning and 12 method demonstrations were held by the specialist.

Miscellaneous—Each year growers are demanding more assistance in the various problems connected with marketing of their fruit. During the past season, a special effort was made to aid the peach growers in disposing of their unusually large crop. The purpose of the campaign was to encourage increased consumption of Maryland peaches, both as fresh fruit and by preserving them in various ways to be used later. In the peak of the peach season, a most active two-weeks campaign was made in the city of Baltimore, to acquaint people generally with the situation and the opportunity and desirability of using Maryland peaches to a much greater extent than is customary. By means of exhibits, radio talks, newspaper articles, posters and addresses before civic clubs, a very large number of consumers was reached.

Similar campaigns were conducted in a number of counties by the home demonstration agents.

Growers were also given considerable aid in marketing their fruit by assistance in grading and packing their product. This was especially helpful to those growers who do not have their fruit inspected.

In addition to the usual extension activities, such as demonstrations, advisory visits, field meetings, etc., the specialist published a regular monthly news-letter for the benefit of fruit growers.

LANDSCAPE GARDENING

WORK in this field was considerably expanded in comparison with former years. Early in the year an additional specialist was added to the force, which made it possible to take care of a much greater number of requests for assistance in the improvement of grounds, both private and public. However, interest in the growing of ornamental plants and other improvements of landscapes has increased so rapidly that we are able to render only a portion of the service desired.

Flower Growing Project—This project was organized in 1930 to cover a three years' course in the study of ornamental gardening. The specialist prepared for each year a set of four lessons covering (1) annuals, (2) perennials, and (3) shrubs. These, together with illustrative material and demonstrations, were presented to the Home Demonstration Agents in district conferences. They, in turn, outlined the work to groups of project demonstrators, two of which were selected from each Home-makers' Club to carry the project. In the fifteen counties in which this work was undertaken, 2,460 individuals enrolled for the course.

Garden Tours—As an outgrowth of the flower garden project, three all-day garden tours were conducted in two counties, in which approximately 335 persons participated.

Flower Shows—Another development directly traceable to the flower garden project is the greatly increased interest and activity in holding flower shows. Assistance was given in the organizing, conducting and judging of a number of shows throughout the State. In one county approximately 1,000 entries were made and 600 people viewed the exhibits. The size and quality of these flower shows reflected great credit upon the communities in which they were held and are a striking evidence of the wide-spread interest in the improvement of home grounds.

Landscape Plans—Requests were received for landscape assistance covering nearly all phases of the work. Of 140 such requests, 97 were of such character as to require preparation of definite plans in order to render adequate help. The remainder could be taken care of by advisory visits.

A classification of types of properties for which plans were prepared includes school grounds, home grounds or farmsteads, one public park, one town plan, two churches, one estate, three Court Houses, one hospital, one armory, and two Government grounds.

In addition to the making of definite plans, a number of demonstrations were held in which landscape designs were formulated.

The principal value of work in this field is of a nature that cannot be measured in dollars. No reliable estimate could be placed upon the aesthetic effect and the pleasure and satisfaction derived from beautifying the home grounds and the country-side. However, there is a very real and substantial value, as well. The nursery business in Maryland has during the last few years become one of our major industries. A conservative estimate of the gross sales of ornamental nursery stock would be $2,000,000 a year. The capital invested in nurseries is, of course, a great deal more. It is estimated that the value to the nurseries of the State of the plant materials specified in the plans prepared and suggested during advisory visits will, by the time they are completely carried out, amount to approximately $30,000. The possible added sales resulting indirectly from demonstrations, addresses and other general results of the work will undoubtedly be even greater.

Junior Work—In a number of counties 4-H club girls carried on flower projects similar to the course for adults, but somewhat simpler. This work was carried on in seven counties. Requirements were generally limited to the growing of two or three flowers, the giving of a demonstration before the club, and a written report of the garden activities.

Miscellaneous Activities—A large amount of timely information was supplied through the medium of mimeographed sheets, known as "Ornamental Gardening Notes," which were issued monthly and sent to a list of approximately 1,600 persons.

Cooperation was given the Committee on Farm Planning and Beautification of the President's Home Owning and Home Building Conference. Three special reports were prepared for that Conference, covering "The Flower Garden," "Architectural Features for the Home Grounds," and "Vines for Ornament."

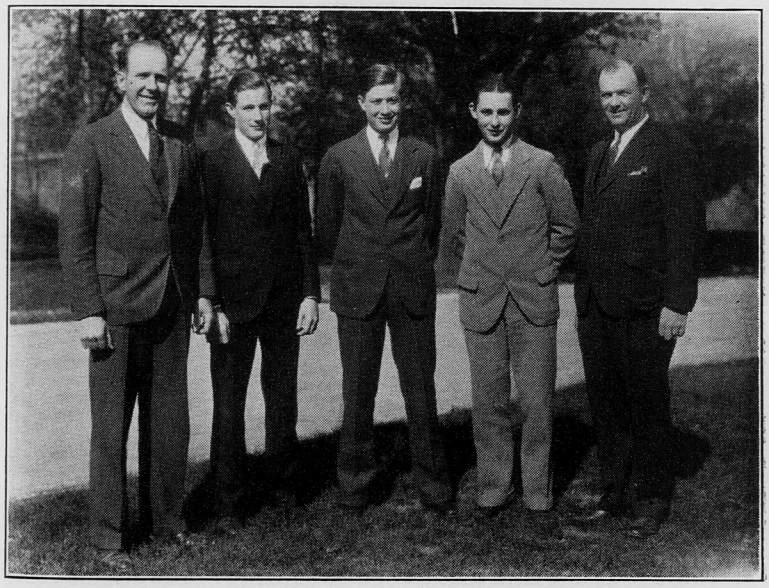
Service was also rendered in connection with efforts to relieve unemployment in a number of specific instances, particularly in cooperation with the George Washington Bi-Centennial Garden and Clean-up Campaign.

DAIRY HUSBANDRY

WORK in dairy husbandry emphasized the importance of reducing costs of production in order to meet present conditions. With this end in view, encouragement was given to weeding out low producing cows, the growing of legume hay and silage, and the use of home-grown grains to as great extent as possible.

Weather conditions were more favorable than in 1930 and dairymen have a greater supply of both roughage and grain. Owing to the low price of wheat, large quantities were fed; this replaced oats, barley and corn in the dairy rations.

The fact that prices for milk have been maintained above the level prevailing in practically all other sections of the country is a tribute to the value and effectiveness of the co-



Maryland 4-H Judging Team, which won the International Dairy Cattle Judging Contest at Warwick, England. Left to right, H. M. Carroll, county agent, Harford county; Charles Clark, Harford county; James Johnston and William Chilcoat, Baltimore county, and Howard C. Barker, specialist in dairying, Extension Service.

operative organizations through which Maryland dairymen market their products. The three organizations, the Maryland State Dairymen's Association, the Maryland-Virginia Association and the Inter-State Milk Producers' Association, have continued to render distinct service to their members.

Herd Improvement Associations—Eleven associations are testing regularly approximately 4,500 cows. Average production of cows in the associations was 7,264 pounds of milk and 295 pounds of fat. Eighty-six herds made an average of 300 pounds or more of butterfat for the year.

Purebred Sires—One hundred and ten purebred dairy bulls were placed through efforts of county agents and specialists. Members of a purebred Jersey bull ring, which was started in Garrett County in 1930, are all well pleased with the bulls and the type of calves they are getting. It is too early to fully measure the value of this project.

Construction Work—Substantial improvement is made each year in the equipment of dairy farms. During the last year, county agents reported the building of 93 dairy barns, 123 silos and a number of dairy houses. Forty-six safe and sane bull pens were built, 21 of which were built in Harford County, where a drive was made along this particular line of work.

Progress in Milk Production—Assistance was given the State Board of Health and County Boards of Health in making a survey of the quality of milk supplied to the towns in Kent and Queen Anne's counties. As a result of this survey, Chestertown, Kent County, passed an ordinance requiring pasteurization of all milk sold in the town. Local Boards of Health are much pleased with the progress that has been made and dairymen are realizing that it will be necessary to use more care in the production of milk.

Prompt action by the county agent, the dairy specialists, and Inter-State field men among dairymen in the territory supplying milk to the plant at Snow Hill prevented that plant being changed to a Grade B plant.

4-H Dairy Calf Clubs—Work with the boys and girls has continued to be one of the most important activities along dairy lines. During the last year there were 798 club members en-

rolled in dairy calf clubs, with a total of 1,061 calves. One-hundred of these calves were shown at the Timonium State Fair. Judging teams from 14 counties competed for the State team that represented Maryland in the national contest at St. Louis. Five counties sent demonstration teams to Club Week at the University of Maryland and three of these teams were selected to compete for State honors at Timonium. The team from Allegany County was sent to the national contest in St. Louis. A Maryland judging team had the honor of representing the United States in the International Judging Contest, held at Warwick, England, and won first place.

ADVANCED REGISTRY WORK

INTEREST in improvement of dairy herds and promotion of the principal breeds of dairy cattle continued to increase. Economic conditions emphasized the importance of keeping animals of known production and high capacity. That breeders responded to the situation by efforts to improve their herds is evidenced by an increase in the number of breeders entering their cows for testing and also in the number of cows on test. Records for the year show that the constant improvement in dairy animals kept for breeding purposes, evident for the last several years, was maintained during 1931.

Advanced Registry Testing—In spite of adverse conditions, our records for Advanced Registry Testing show that 11.6% more cows were placed on test than in the preceding year. The total number of cows included in this work was 6,761 and the number of herds represented was 568.

Seven-day testing, which formerly constituted a rather important phase of the work, is rapidly being discontinued, owing to the fact that this type of test is coming to be looked upon as obsolete. In 1930 there was a decrease of 36 percent in seven-day testing compared with 1929, and the 1931 figures show a decrease of 56 percent compared with those of 1930.

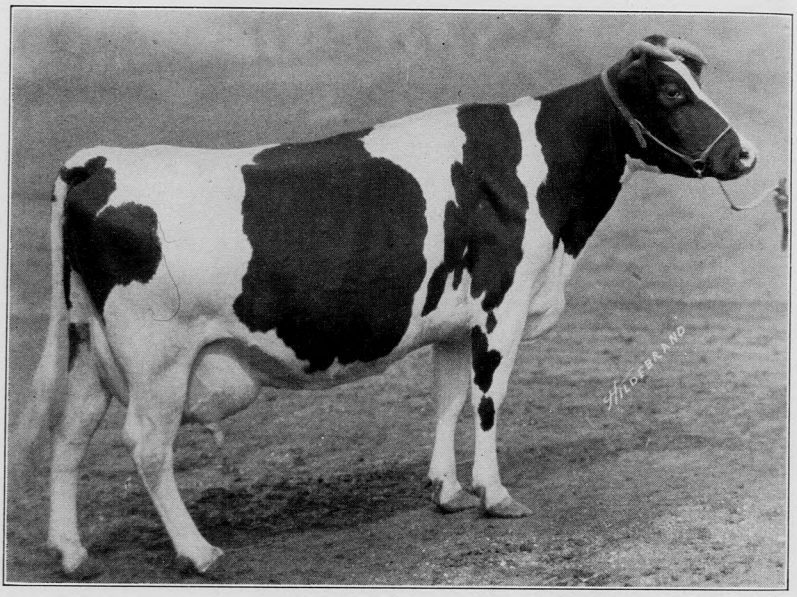
The following records give an impression of the quality of dairy cows owned by Maryland breeders and entered in the Advanced Registry Testing:

Eighteen Guernsey breeders completed 100 Advanced Registry records, which averaged 10,995 pounds milk and 552.4 pounds fat for all ages.

Six Holstein breeders completed 57 semi-official records, which averaged 16,549.7 pounds milk and 561.3 pounds fat.

Fourteen Jersey breeders completed 88 Register of Merit records, which averaged 8,906 pounds milk and 468.39 pounds fat.

Herd Improvement Registry—This work has grown in scope and is becoming an important activity. Holstein herds completing one or more years of Herd Improvement Registry work



New Maryland State champion cow, Liscomb Fobes Homestead Irene, owned by Charles H. Anderson and Son. By producing 32,412.1 pounds of milk and 1,011 pounds fat, she became Maryland's first 30,000 pound cow.

have increased from four in 1930 to eight now on test. Four Jersey herds are now on test and four herds completed herd test records during the year. It is gratifying to know that Maryland ranks high in the number of herds on test, compared with those in the large number of states in which Herd Improvement Registry Work is carried on.

Shows and Field Days—Those interested in promoting the interests of each of the four principal breeds of dairy cattle by means of field days and shows were given assistance in organizing and conducting such events. Three Guernsey Field Days and one each for the Holsteins, Jerseys, and Ayrshires were held, and a Jersey Cattle Show was also held on the Eastern Shore.

4-H Cattle Judging—The Maryland 4-H Judging Team, which won first place at the National Dairy Show in 1930 represented America in the International Dairy Cattle Judging Competition, held at Warwick, England, on July 8. North Ireland, England and America were represented by teams of three members each. Following is the ranking of the teams: The total possible points was 2160: United States was first, with 1917; North Ireland was second, with 1812; and England was third, with 1779 points.

As a matter of record, the final scores of the individual contestants are given as follows:

Contestant	Team	Placings	Reasons	Totals
Chilcoat	U. S.	330	323	653
Clark	U. S.	310	340	650
Irwin	No. Ireland	325	299	624
Rea	No. Ireland	320	299	619
Hobgen	England	290	326	616
Johnston	U. S.	290	324	614
Busby	England	310	295	605
Mawhenney	No. Ireland	285	284	569
Arnison	England	265	293	558

The team which represented the United States was composed of William Chilcoat, and James Johnston, Baltimore County, and Charles Clark, Harford County.

Fourteen teams competed in the Maryland 4-H Judging Contest at Timonium State Fair.

Organization—A State Ayrshire Breeders' Association was organized in March, breeders of the other three breeds of dairy cattle having had similar organizations for a number of years. The State Ayrshire Field Day was one of the best breed events of the year.

A series of ten very successful Holstein meetings was held, primarily for increasing the membership. The membership was increased from about 50 to 130.

MARKETING

MARKETING of farm products offered many problems during the year, due to the general low level of prices, and the Department of Markets rendered service along a great many lines. Production of agricultural commodities in Maryland continued about the same as in former years, there being no decided increase or decrease.

Cooperative Marketing—The three marketing agencies handling milk continued to function in a satisfactory and profitable manner.

The Maryland Tobacco Growers' Association reports a slight increase in membership and volume of business handled. Better grades of this crop have brought greater net returns to the growers of Maryland than have been received by growers in other sections of the country.

The State Wool Pool continued active, but because of unfavorable general market conditions the volume handled was not as large as in previous years.

Notwithstanding the decline in price of grain, the Agricultural Corporation continued active in its service to grain growers.

Plans are about complete for the organization of a livestock association, which will be affiliated with the National Association set up under the auspices of the Federal Farm Board.

In cooperation with the Federal Farm Board, efforts were made to develop a cooperative organization of potato growers to handle the early potato crop.

Efforts were continued with the poultry producers to develop local egg and dressed poultry cooperative associations.

No attempts were made this year to organize either fruit or truck growers into cooperative associations. Nearness to market, the constantly improving transportation facilities, and rapid development of motor truck deliveries have made it possible for these growers to take advantage of nearby local marketing outlets; as a result, they have not shown an inclination to organize for the cooperative marketing of their products. A conference of growers from Maryland and adjoining states was called by the Federal Farm Board for the purpose

of discussing the situation, but it was decided that the time was not favorable for organization of a group of cooperatives.

Standardization of Farm Products—Standardization continues to be one of the principal factors in our marketing problems. During the year additional effort was made to assist in the more widespread use of standard grades in the marketing of farm products. Progress was made principally through shipping point inspection, which was extended this year to include raw tomato stock for canning factories, in addition to the commodities inspected in previous years.

Shipping Point Inspection—This is the eighth year that shipping point inspection has been used by Maryland growers and shippers. Nine commodities were inspected for 77 growers and shippers, which is an increase in the number of requests for the service. From December 1, 1930, to November 30, 1931, 2,254 cars were inspected. The following table shows the number of applicants, the number of cars of each commodity, and the months in which the service was rendered:

Commodity	Number Applicants	Number of Cars	Duration of Service
Strawberries	4	239	May and June
Beans	1	1	June
Sweet Potatoes	2	25	December (1930)
Cucumbers	1	1	July
Tomatoes	1	15	July and August
Peppers	1	5	September
Peaches	5	37	August and September
Irish Potatoes	17	717	June, July, August
Apples	51	1,214	July, August, September; October and November
Total	83	2,254	

Note: The total number of applicants shown in the above table includes six applicants for whom inspections were made at more than one place.

Fruit and Vegetable Inspection—This is the first year that a substantial number of requests were received for inspection of early and summer apples. There was an increase of 33⅓ percent in the number of applicants using the service. The total shipment of apples in the State to November 30 was 1,730 cars. Of this number, 70 percent were inspected.

Notwithstanding the fact that one of the largest peach crops on record was produced, only 37 cars were inspected. Market conditions were such that growers found it extremely difficult

to dispose of their crop and in most instances the movement was by truck.

Likewise, low prices and unsettled market conditions affected the Irish potato inspection work. The actual number of cars inspected was less than in the preceding year.

Canning House Tomato Inspection—Distinct progress was made in the inauguration of service for inspection of the raw product at canneries. This service was rendered in response to requests from canners and was carried on, in cooperation with the Government, at 27 points in the State during the tomato canning season. This is considered an unusually large number of requests for the first season.

It is gratifying that so many canners and growers were willing to have the raw product graded on the basis of U. S. Grades. In cooperation with the farmers' organizations, a general policy was agreed upon, whereby a majority of the canners bought tomatoes on the graded basis and paid for them at the rate of 150 percent of the basic price for U. S. No. 1's, 75 percent of the basic price for U. S. No. 2's, and nothing for culls.

A total of 782,491 baskets, or 15.9 percent of the crop, was purchased on the basis of U. S. grades. It was found necessary to keep very complete records of the inspection, in order that the results could be presented to growers and canners and show the advantages of the work.

Method Demonstrations—In conjunction with inspection of fruits and vegetables at shipping points and canning houses, about 2,933 method demonstrations were given by the various inspectors. These do not include advice and recommendations given to farmers who brought their products to the car door ready for shipment. Total attendance at these demonstrations was 5,373, of which 4,418 were actual producers representing the actual number of farms involved.

Maple Syrup Inspection—In cooperation with the Garrett County Maple Products Association, inspection of maple syrup was continued this year. Approximately 2,300 gallons of syrup were inspected and certified as to grade.

Market Reporting—Market reporting was carried on, in cooperation with the U. S. Bureau of Agricultural Economics, along the same lines as in recent years. The Service began May 21 on strawberries and continued until August 15. Daily market reports were issued at Pocomoke City. A daily report on the Baltimore market was issued covering fruits, vegetables, live poultry, eggs, and grain. It went to a mailing list of between 800 and 900. Publication of a monthly Market News Letter was continued.

Marketing Turkeys—With the great development of the turkey industry, particularly on the Eastern Shore, there has appeared from time to time a sentiment among growers to sell their turkeys cooperatively. Before actually engaging in the business, it was found desirable to make a survey for the purpose of ascertaining how growers were disposing of their birds, what prices they received, and whether they would be willing to sell through a cooperative.

This survey showed that more than 80 percent of the growers were satisfied with the present system of marketing. Practically all desired better grading, standardization, and the possible establishment of a central dressing plant. It was shown that prices received by these growers, mostly for live birds, were better than prices which could be expected from placing dressed birds on the market through a cooperative. Apparently, they received as good prices as were justified by market conditions.

Seed Certification—Progress was made in seed certification work. A conference of representatives from Pennsylvania, New Jersey, Delaware, and Maryland was held for the purpose of considering standardization and certification, particularly with reference to tomato seed. In cooperation with Canning Crop Specialists and the Tri-State Packers' Association, tomato seed was certified in accordance with the requirements. Altogether, 1,815 pounds of tomato seed was certified.

Approximately 40,000 bushels of seed potatoes were certified in Worcester and Somerset counties. About 20 carloads were shipped this year.

Spray Residue Analysis—In cooperation with officials of the State Horticultural Department and the State Board of Health,

analyses of commercially produced apples were made on samples from 117 orchards. Of the 513 samples from 28 varieties, 76 required re-testing. Analyses of all varieties indicated that, with the exception of 24 samples from 15 orchards, all the fruit was below the international tolerance. As a result of the care used in taking samples and the thoroughness with which the work was conducted, no reports have been received indicating reversals of shipping point certificates issued.

Study of Market Conditions in Baltimore—Because of a number of requests received from Anne Arundel and Baltimore counties for specific information regarding conditions surrounding the marketing of nearby produce in Baltimore, a study was made of the situation. A specialist was detailed to survey the wholesalers, retailers, those who are both wholesalers and retailers, and the re-shippers. This study revealed a great need for better grading and packing practices among growers delivering produce to this market. It also showed great variance between wholesale and retail prices. Efforts are contemplated by the County Agents concerned and the specialists with a view to inducing growers to adopt better systems of grading and packing and it is hoped that cooperation of wholesalers and commission men may be enlisted in improving sales of the produce. It is also the hope that some steps can be taken to protect consumers against retailers who are exacting unfair profit.

Egg Marketing Survey—A similar survey was made of the egg market in Washington, D. C. Both the wholesale and retail systems of selling eggs were studied by a specialist. The following conclusions were reached from this survey:

Washington is a white egg market.

Chain stores offer eggs of a higher score and in neater packages than independent stores, but the interior quality of eggs handled by the independent stores score higher than those handled by chain stores.

Stores catering to both high-class white and colored people handle better grades of eggs.

Consumers pay more for eggs at independent stores than at chain stores. The difference between the maximum and

minimum prices paid at these stores is greater than at chain stores, where prices are more uniform and do not vary so widely.

The cost of distribution, including commission, profits, etc., in handling eggs equals approximately the price paid to producers for their eggs.

It is hoped that steps can be taken to improve this situation.

Marketing Tours—A farmers' marketing tour for the purpose of observing produce terminal facilities in New York and studying methods employed in handling and distributing produce was arranged cooperatively by the Extension Service and the Baltimore and Ohio Railroad Company. Three delegates and the county agent from each of 15 counties, accompanied by specialists and officials, participated in this tour on October 25, 26 and 27. A similar tour was conducted two years ago and proved so successful that it was decided another should be made.

Representative farmers from the Del-Mar-Va peninsula, accompanied by their county agents, and representatives of the Extension Service and the Pennsylvania Railroad, made a tour of the produce terminals in New York City the latter part of July.

A number of less extensive tours were conducted for the purpose of giving various groups an opportunity to observe certain features of the Baltimore markets.

Peach Marketing Campaign—Marketing specialists cooperated with others in the Extension Service in launching a "Peach Time in Maryland" campaign. Splendid cooperation was given by a large number of agencies in planning and carrying on the work. In view of the fact that this was a somewhat unique undertaking and different from former marketing activities, a rather complete report is given.

Because of the unusually large crop of peaches in all peach producing areas, it seemed likely that prices would be very low and there would be tremendous waste, unless a special effort was made to acquaint people generally with the situation. It was an opportunity for consumers to use peaches in larger quantities than under more normal conditions and such action on their part would react to the benefit of producers.

Accordingly, a conference was called of representatives of such agencies as might be interested in a cooperative effort along this line. This conference included representatives of the Baltimore Association of Commerce, the Maryland Development Bureau, the State Federation of Women's Clubs, State Women's Civic Clubs, Independent Grocers' Association and Chain Stores, Wholesale Produce Dealers and Commission Men, Restaurant Men's Association, State Department of Health, State Dairymen's Association, Baltimore Dairy Council, Railroads, Maryland State Grange, Maryland Farm Bureau Federation, Service Clubs, Ice Cream Manufacturers, Milk Bottlers Exchange, State Horticultural Society, and leading peach growers from all parts of the State. County and Home Demonstration Agents from the principal peach producing counties were asked to attend.

It was decided to put on a campaign emphasizing principally the following three basic facts:

(1) That there was an abundance of fine peaches in Maryland this year that could be obtained at exceptionally reasonable prices.

(2) That there was abundant cream for use with the fresh fruit.

(3) That the situation afforded an unusual opportunity to use these products in larger quantities while fresh, and also to preserve greater quantities of peaches for future use.

Among the features of the campaign were:

1. Letters were written by Mr. George J. Clautice, Secretary of the Baltimore Association of Commerce, to principal bakeries and ice cream manufacturers, suggesting that they feature peach cakes, peach ice cream, and other peach products.

2. Letters were sent by him to restaurant and hotel operators, suggesting that they feature peaches in various forms in their menus.

3. Daily radio talks, emphasizing the use of peaches.

4. Posters, reading "Peach Time in Maryland, Eat Peaches and Cream," were distributed to retail grocers, markets, and to some of the restaurants and bakeries.

5. Talks were made at luncheon and service clubs, accompanied by appropriate settings of fine Maryland peaches.

6. Exhibits, featuring peaches and attended by 4-H club girls, were displayed in four of the largest department stores and the Lord Baltimore Hotel.

7. An attractive circular entitled, "Peach Time in Maryland," and containing selected recipes for use of peaches, was prepared by specialists of the Extension Service. More than 20,000 of these circulars were distributed from the exhibits and in other ways.

8. A series of peach recipes and peach menus and other material pertaining to the campaign were used quite generally by the public press.

Evidently it is not possible to measure very definitely the results of such a campaign. There is no standard with which to compare the sale and use of peaches this year and in other years, or determine what the situation would have been had the work not been done. However, there were some tangible evidences of results.

1. The large number of people who came to the exhibits and asked for copies of the recipe circular showed that people were being reached. About 500 circulars were given out upon request at each exhibit each day.

2. Featuring of peach dishes at attractive prices by a number of restaurants resulted in greatly increased orders.

3. The interest manifested by business men and telephone calls for information regarding Maryland peaches showed that the campaign reached people quite generally.

4. A large percentage of retail dealers reported that people were asking for "*Maryland*" peaches, which undoubtedly was almost entirely the result of this endeavor.

5. As the result of the presentation at one service club, a large manufacturer purchased a truck load of peaches to be given to his employees. This suggestion was passed on to other large commercial concerns in the city.

6. As expressed by a number of those at the first conference, the aim was to make people of Baltimore "Peach Minded," and there is no question that this result was accomplished in large measure.

Similar campaigns on a somewhat less extensive scale were conducted in a number of the larger cities and towns throughout several counties of the State. Representatives of the Service located in the counties were principally responsible for the activities, other than in Baltimore City.

POULTRY HUSBANDRY

FOUR major problems confronting the poultry industry were given special attention during the year. They were (1) prevalence of disease and parasites, with resulting high mortality of stock; (2) low egg production and inefficient poultry management; (3) lack of coordination of efforts in production, marketing and quality standards in Maryland poultry products; and, (4) prevalence of disease and parasites in turkeys.

Disease and Parasites—This project has now been carried on for five years. In 1931, it reached 385 farms and hatcheries and involved approximately two and one-half million chicks. Records from 153 farms that made complete reports showed that on farms where sanitary measures recommended were followed, the percentage of chicks lost was greatly reduced. The average mortality on farms where all of the eight sanitary measures were followed was 9.1%; the average for farms that did not follow three or more of the measures was 25.5%. This project is responsible for a material reduction in one of the greatest losses suffered by poultry raisers.

Low Egg Production—Special calendars were again supplied poultry raisers for keeping records of their flocks. These calendars provide for keeping records of monthly and yearly egg production, mortality of birds, receipts and sales, and also give seasonal suggestions on poultry management. An average of 148 farms sent in monthly records, representing 52,044 birds. Mortality and culling figures indicate that 1931 pullets were not up to the standard of previous years; drought and excessive heat of the previous year is believed to be a factor in this condition. Results show that greater efficiency in management is practiced when complete records are kept and the work along this line will be continued and expanded in future years.

Organization and Marketing—One State Federation and eight county and local associations exist in Maryland for the

purpose of furthering the interest of their members and the industry in the State. Most of these organizations follow a program of activities. During the year, the Extension Service cooperated with these organizations in the following educational activities: Four educational tours, five poultry shows, one poultry products' show, and two summer field meetings.

It is anticipated that cooperative marketing of poultry products will be developed through these organizations when it is apparent that the volume of products, interest and moral support of the poultrymen indicate a favorable outlook for such activity. The Caroline County Poultry Association is now engaged in studying the situation with a view to marketing eggs cooperatively.

High Mortality of Turkeys—Turkey production is a specialized phase of the poultry industry and involves a relatively small number of producers on a commercial scale. Work on this project is limited to leaders who are closely followed by the smaller growers. Where sanitary measures similar to those recommended for chickens were followed, the percentage of mortality was greatly reduced.

Boys' and Girls' 4-H Club Work—Twenty-one counties participated in poultry 4-H club work and 565 demonstrations were made. One State judging contest, one district judging contest, and nine county contests were held.

Aproximately 25 4-H club members carried the adult work under the "Grow Healthy Chicks" and "Calendar Record" projects.

Breed Improvement—Considerable emphasis was placed on breed improvement. The problem was attacked by a cooperative activity involving inspection of flocks and banding of birds suitable for breeding and testing for Pullorum Disease (Bacillery White Diarrhea). Agencies cooperating in this work are the Maryland State Poultry Association, Maryland State Bureau of Markets, Livestock Sanitary Laboratory, and the Poultry Department and Extension Service of the University of Maryland.

For the 1932 breeding season, about 25,000 birds have been examined and given one test for Pullorum Disease. This is an increase of about 350% in the number of birds blood tested,

compared with the previous seasons. Approximately 1,800 birds were started in Home Record of Performance work during the fall.

ENTOMOLOGY

INSECT control work involved more or less extensive activities designed to combat a wide variety of insect pests. Special features of the program that required attention were the Spray Service, the cooperative work with Home Demonstration Agents on garden and flower pests, and work with bees. Two projects, the Mexican bean beetle and the European corn borer, did not receive much attention, due to the scarcity of the former and the absence of the latter.

Spray Service—For a number of years a Spray Service has been maintained, whereby fruit growers are advised as to the most effective time to apply sprays, the kinds and amounts of materials to use, and other important information which will assist them in reducing the damage to their crops by insects and diseases. In connection with this work during the year a publication was issued entitled "Spraying for Better Fruit," which proved especially effective, partially due to the attractive and convenient form in which it was published.

Undoubtedly the codling moth was the most serious factor in the orchards of Maryland this year and due to the great interest that orchardists are taking in controlling the insect, probably would be considered the outstanding problem of the year. Results obtained by a survey of 18 commercial orchards indicate that definite progress was made in control of codling moth. According to these results, the average of wormy fruit for the State was a little less than 7 percent, compared with an average of approximately 18 percent last year.

Insects of the Flower Garden—Due to an increasing interest in garden clubs, a demand has developed for control of insects affecting flowers. This demand has been furthered by the annual flower show in Baltimore, in which the University has participated to the extent of staging for two years an exhibit of insects injurious to flowers and ornamentals.

A set of slides was prepared for use of County and Home Demonstration Agents, and these were sent on a scheduled

itinerary together with a syllabus, so that they could be used without the assistance of a specialist.

Nursery and Greenhouse Work—There are 180 nurseries and more than 250 greenhouses in the State. The Service keeps in close contact with most of these establishments and furnishes them with information on insect control from time to time. Juniper scale and oyster shell scale were more prevalent than usual and special efforts were made to encourage spraying for control. The juniper web worm appeared in several nurseries this season, which is the first time the insect has been recorded in the State.

Many individual visits and personal contacts were made, by request, on the control of a large number of different nursery and greenhouse pests.

Other Insects—More or less work was required in numerous lines, including assistance in control of insect enemies of most of Maryland's widely diversified crops, insects affecting animals, human beings, buildings, etc. Insects attacking potatoes and other truck crops constituted an important part of the work; mosquitos, ants, and other pests of the home and of human beings also received considerable attention. A limited amount of effort was devoted to control of insect pests of stored products.

Bees—Activities in this field included five lines of effort: (1) Work with the Maryland State Beekeepers' Association, (2) Disease Control, (3) Honey Marketing, (4) Educational Work, and (5) Pollination.

Membership in the Beekeepers' Association was greatly increased and there was evidence of much greater desire on the part of beekeepers to cooperate for the common good, as shown by efforts during National Honey Week, their interest and work in connection with fair exhibits, and their general attitude towards one another in regard to pricing and selling their honey.

Good progress was made in teaching beekeepers how to detect diseased conditions in their hives and the most economic methods of eradication. They are being won over to the burning method of disease eradication, which in the majority of

cases is the most efficient and economical method of combating disease.

As a basis for work designed to improve the methods employed in marketing Maryland honey, a survey was made of the Baltimore honey market. This survey resulted in a fund of practical information as to the best season to sell honey, the type of package desired, the kinds of stores in which honey can be sold to best advantage, and points of that nature.

Educational work included demonstrations, talks and personal contacts and covered all phases of the beekeeping industry. It extended to both adults and 4-H Club members. During the period of fruit bloom, visits were made to orchardists and the value of bees as pollinizers was emphasized.

PLANT PATHOLOGY

CONDITIONS were favorable for the development of most crop diseases during the year. Activities designed to reduce the losses in yield and quality of crops due to diseases included assistance in seed selection, seed treatment, soil disinfection, spraying, dusting, production, maintenance and marketing of seed stocks of superior quality, and other methods for control of plant diseases.

Barley Diseases—Twelve seed treatment demonstrations with formaldehyde dust for control of covered smut were conducted. Accurate records obtained from five of these demonstrations showed that all untreated fields had smut, varying from 5% to 8%. On three of the treated fields the smut was entirely eliminated, on a fourth field there was a mere trace, and on the fifth field there was .5% of smut. Further demonstrations are in progress.

Orchard Diseases—Losses from fruit diseases in Maryland amount to from 10% to 15% of the crop each year. In order to assist orchardists in reducing these losses, a spray service is maintained, whereby they are informed the proper time to spray for best results, what to use, and the most approved methods. To provide this information, studies are made of the development of apple scab fungus and other organisms which may produce disease. Spray service cards are sent to orchardists through the offices of county agents.

Concentrated Lime Sulphur and Flotation Sulphur were compared as spray materials for control of apple scab and other diseases in two apple orchards and although the Concentrated Lime Sulphur gave somewhat better control of scab, the results obtained from Flotation Sulphur were very promising.

Sweet Potato Diseases—Progress was made in control of sweet potato diseases by use of certified seed. Both field and bin inspection service was furnished to growers who requested it and 1,555 bushels of sweet potato seed were certified. Result demonstrations in control of soil-borne diseases by broadcast of inoculated sulphur gave promising results.

Tobacco Diseases—Control of tobacco diseases in Maryland is dependent in large measure upon sanitation in the seed beds and the adoption by tobacco growers of a regular program of seed bed spraying with Bordeaux mixture. A survey was made of 145 seed beds and wildfire was found in 28% of them. An inspection of 44 tobacco fields brought out the fact that severe losses from wildfire in the fields were experienced only when set with plants from seed beds in which the disease occurred. Only three of the 44 fields inspected showed severe losses from mosaic. Downy mildew was found in this State for the first time this year. Severe injury resulted from it in only a few seed beds and field surveys failed to reveal any damage after the plants were set out.

White Potato Diseases—Distinct progress has been made in the control of diseases affecting this crop. The work has been carried on for a number of years as one of the major activities in plant disease control. The Extension Service is assisting seed potato growers to produce high-quality certified seed and is also assisting potato growers in obtaining that type of seed. This year, 65,948 bushels of seed were eligible for certification, the largest quantity of seed that has ever been certified in the State. Approximately one-half of this seed will be sold outside the State and half will be planted in the State. Thus, certification will add to the income of growers by sale of seed and by increased yields of potatoes.

Diseases of Other Crops—Growers of cabbage, beans, cantaloupes, cucumbers, tomatoes, corn, wheat and other crops were

given information regarding most effective methods for control of diseases. In the case of wheat, treatment of seed with copper carbonate dust and construction of home-made barrel mixers have become somewhat familiar, as the result of demonstrations during the last few years.

Boys' Club Work—Production of high-quality seed by 4-H club boys has had a decidedly beneficial effect upon the potato industry in Garrett County and the work is spreading to others of the potato producing counties. First, the boys beat their fathers and neighbors by getting better yields; then they beat them at the potato shows by having better exhibits. There was strong demand for the boys' seed and it was sold throughout the county. This year approximately 3,000 bushels of this seed was used and it gave better results than seed produced elsewhere.

FORESTRY

WORK in Forestry during 1931 included the following major activities:

1. Reforestation of waste and abandoned lands.
2. Improvement of immature farm woodlands.
3. Proper cutting methods in mature woodlands.
4. Production and marketing of maple syrup and sugar.

The work in reforestation and improvement of immature woodlands, which was started in the fall of 1930, was completed.

A survey was made of the status of the forestry project in each county, the results of which indicated need for particular emphasis on improvement of immature woodlands and proper cutting methods in mature woodlands.

Reforestation—A general survey of needs for planting was made and a number of plantations were inspected for survival and growth. Plantings established during the spring of 1931 show a high percentage of survival. Plans are under way for detailed surveys of lands in need of planting in several counties to provide a basis for a reforestation program.

Improvement of Immature Woodlands—An intensive program of woodland improvement was inaugurated in seven

counties. The objective is to contact the owners of most of the farm woodland in these counties and establish a large number of demonstration areas and plots. Through personal contacts, visits to individual woodlands, and demonstrations, the advantages and methods of improved management will be shown. Such a program will result in increased profits to a large number of owners, through adoption of the practices demonstrated.

Proper Cutting of Mature Woodlands—A timber estimating and marking service is maintained by the State Forestry Department. This is probably the most satisfactory method for encouraging and providing for proper cutting and marketing of mature timber from farm woodland. Owners generally were advised to avail themselves of this service and it was explained by letters, at field meetings and otherwise.

Production and Marketing of Maple Syrup and Sugar—Through cooperation with the State Deparment of Markets and the U. S. Department of Agriculture, inspection service was again provided for the Garrett County producers. An effort was made to advertise the syrup to Baltimore retail trade. Samples of spoiled syrup were analyzed and the organism causing the spoilage was identified. Preventive and control measures were recommended. Plans are under way for a series of meetings dealing with better production and marketing methods.

Miscellaneous—Forestry talks were given at 4-H club camps and at other meetings. An effort was made to obtain information on the cutting and marketing of holly.

CANNING CROPS

AN EXTENSIVE program of work for improvement of canning crops was outlined in 1931, covering the principal points of production and disease control. The projects included (1) improvement in quality, (2) increasing the efficiency of production, and (3) assisting in the marketing of canning crops.

Meetings with both canners and growers, sponsored by county agents and the Tri-State Packers' Association, were held in the important canning crop counties, at which time

specific recommendations for production and disease control and information relative to marketing were discussed.

For the last five years special attention has been given to the production of plants for early setting in the field by means of cloth-covered cold-frames. That distinct progress has been made in this project is evident from the fact that approximately 13,000,000 plants were grown by this method in 1931.

Thirty field trials with the Break O'Day variety of tomatoes were arranged in ten counties to determine its quality for canning purposes. Results of these tests indicate that this variety fails to ripen uniformly and is, therefore, undesirable as a canning crop. The Pritchard variety, formerly the Scarlet Topper, was observed in several tests and seems to possess qualities which are desirable both for early market and for canning.

Tomato seed saving was conducted by two organizations, the Tri-State Packers' Association and E. V. Stockham, Inc. A total of 2,898 pounds of certified seed of the Marglobe variety was produced and this seed will be available for growers in Maryland and near-by States. In addition, 176 pounds of uncertified seed of the Tri-State variety was saved. All the seed saving was conducted under the supervision of the canning crops specialist.

The Maryland Ten Ton Tomato Club, organized in 1928, continued to interest growers in efficient methods of production. In 1931, 154 growers were enrolled and four growers qualified for membership in the club by producing more than ten tons of tomatoes to the acre.

A substantial beginning was made in the improvement of conditions existing in the marketing of canning crops, as described in the report on marketing activities. Sixteen Maryland canners purchased all, or a part, of their raw stock in 1931 on a basis of Federal grades at 27 points where inspectors were maintained.

More than eighty boys were enrolled in a tomato growing project, but due to unfavorable seasonal conditions, it was not carried to a successful conclusion.

A number of field demonstrations were conducted for the purpose of comparing Green Gross hybrid and Narrow Grain

Evergreen corn with the varieties commonly grown. Because of unfavorable conditions and damage by ear worm, rot and mold, the yield of all varieties was low.

The outstanding demonstration with peas during the year was the performance of the Maryland Alaska variety, a selection recently developed by Professor C. E. Temple of the Maryland Extension Service. In five field trials this variety seemed to show super-vigor and exceptional resistance to fusarium wilt.

Diseases of Canning Crops—Bacterial canker made its appearance in Maryland for the first time during the year. It was apparently brought into the State by diseased seed and on southern plants. Canners and growers were urged to make special effort to obtain disease-free seed.

Disinfecting tomato seed with copper sulphate solution in the saving of seed on a commercial basis was demonstrated. Results indicated that no injury occurred with this treatment and that washing the seed after treating is not necessary.

TOBACCO

THIS industry, although confined primarily to five counties, brings an annual return in cash to the growers of approximately $6,250,000. Efforts towards improvement of the product and the income derived from it have continued along lines of previous years, with some extensions, and have made progress.

The principal lines of work carried on during the year were:

1. Efforts to encourage the use of improved varieties.
2. Demonstrations of better seed and plant bed practice.
3. Encouragement of soil improvement methods.
4. Development of better methods of field culture.
5. Better housing facilities.
6. County-wide and local meetings of growers.
7. Recommendations for marketing.
8. Development of 4-H tobacco club work.

Cooperating with the specialist in carrying out the program were the county agents in the five counties, the Maryland Tobacco Growers' Association, and those in charge of the Marlboro Sub-station. The latter is a joint project of the Office of

Tobacco Investigations of the U. S. Department of Agriculture and the University of Maryland Experiment Station.

Varieties—Twenty-five demonstrations were conducted to emphasize the value of improved varieties. Several varieties were outstanding as the most profitable to be grown for the market.

Improvement of Seed Beds—A large percentage of tobacco growers are practicing better seed and plant bed sanitation as the result of demonstrations along that line conducted in the last few years. Seventy-four such demonstrations were made in 1931. Points emphasized were sterilization of seedbed soil and protection of the bed against ravages of insects and diseases by use of good plant bed covers, boards and fences.

Soil Improvement Methods—Several hundred growers are using improved machinery in distributing fertilizer, setting plants and cultivating the crop, that a few years ago were performing these operations by hand. The value of hairy vetch and the profit derived from the use of larger amounts of fertilizers formed the basis of hundreds of demonstrations. Growers have been shown that fertilizers should be used in nearly every case to balance the existing plant food in the soil and are coming to realize rather generally that increased applications of fertilizer greatly increase their net return.

Better Housing Facilities—Because of a sharp demand for better grading of Maryland tobacco, stripping rooms are becoming a necessary adjunct to the business of proper grading. Many plans for tobacco barns were furnished for the purpose of encouraging better curing barns and stripping rooms.

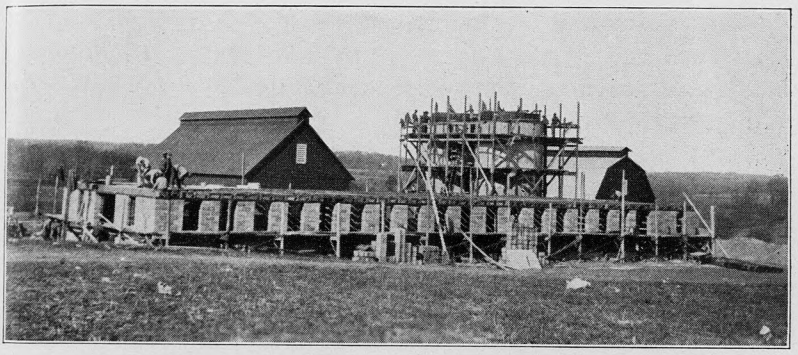
Other Activities—Twenty-six county-wide and 23 local meetings of growers were held during the year. Improved production and marketing were stressed at these meetings by the Tobacco Specialist and salesman for the Maryland Tobacco Growers' Association. As a result, the Association is constantly growing by virtue of the morale built up in this way.

One hundred sixty 4-H tobacco club boys were assisted in growing good crops of tobacco. Two judging contests were conducted among teams of the several counties. Tours of adults and 4-H tobacco club boys from each county to the Tobacco Experiment Station were arranged and conducted.

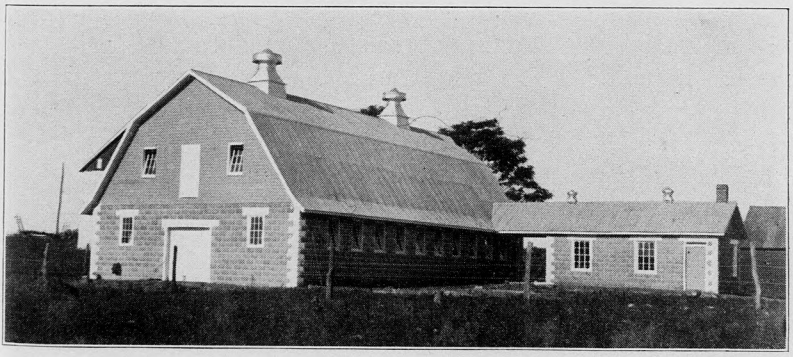
AGRICULTURAL ENGINEERING

FOR the first time, the Extension Service had the benefit of a full time specialist in this important line of work. With this addition to our force, substantial progress was made.

Farm Structures—In continuation of a project started in 1930, whereby each county was supplied with a set of plans for farm buildings, 415 plans were distributed in 1931. Excellent



The start of a 50-cow barn, two monolithic silos, and two tobacco barns at the Maryland House of Correction, Jessups, Md. Planned and supervised by the Agricultural Engineering division, Extension Service.



New 30-cow dairy barn and right-angle dairy house of C. C. Trout. Built from plans prepared by Agricultural Engineering division, Extension Service.

cooperation was given by the Maryland-Virginia Milk Producers' Association. Plans and services were furnished for construction of 80 dairy barns and 80 dairy houses and a considerable saving was secured for the members.

Farm Drainage—Definite help was given a number of farm operators in providing the necessary drainage to permit rearranging the farm lay-out for greater efficiency. Surveys were made and a map of the drainage system furnished with instructions for its installation. Five drainage jobs were completed in 1931.

Water Systems—Farm visits for the purpose of making recommendations regarding the most practical type of water system constituted an important project. In this way direct assistance was given a large number of farmers and homemakers in providing plenty of pure water that was instantly and conveniently available.

Rural Electrification—Interest in rural electrification is widespread, keen and growing. The extension of electric lines brings increasing need for instruction regarding the practical and economic uses of electricity on the farm and in the farm home. Study of electrical uses and current consumption was started on 27 farms, located in six counties, in 1931. In addition, four electric exhibits were displayed at fairs and four tours of the National Rural Electric Project were conducted.

Miscellaneous—Economic conditions emphasize the need for work along the line of repairs to farm buildings and equipment and calls for aid in that field are increasing. There is also increasing demand for information on equipment for labor-saving, home feed grinding, and the like. These needs are being cared for to the limit of our present force and facilities.

FARM MANAGEMENT

Two objectives were set up in the Farm Management program for the year:

(1) Stimulate the keeping of adequate farm records upon at least 200 farms.
(2) Improve the organization and business set-up of at least 500 farms.

As the specialist in this line of work did not begin his work until July, there was little opportunity to stimulate the keeping of farm accounts in 1931. The principal activity consisted in laying the foundation for a sound farm accounting program for 1932.

Farm Record Book—A simple farm account book was prepared and published; economic analysis of each county was made; meetings with county agents and with Farm Bureau officers were held to enlist their support; and a project was outlined for 1932 providing for supervised record keeping upon ten farms in each county of the State. Work done on this project is intended to serve as a basis for the coming year, when a farm account school will be held in each county and four visits will be made to each cooperator to give assistance in making inventories, to check the accuracy of his account, and to assure the keeping of an adequate and accurate farm record.

Organization and Business Analysis—Data pertaining to the organization and business analysis of more than 500 Maryland farms were prepared as lecture material to illustrate economic factors affecting farm profits and to serve as a basis for sound farm re-organization.

Following is a brief summary of Farm Management activities of county agents:

	Number		Number
Farm accounts	67	Changes in farm organization	434
Cost accounts	162	Advice given as to farm leases	68
Summaries made	129	Assistance in obtaining credit	476
Inventories made	30	Outlook presented	2,064
Farm surveys	157		

ECONOMICS AND STATISTICS

IT HAS been possible to give much greater attention to assembling, correlating, and analyzing economic and statistical data than in past years. A specialist in that line of work was added to the staff of the Extension Service and the studies he made and data he arranged proved exceedingly valuable. The statistical information was especially helpful as a basis for charts and graphs and greatly assisted in the presentation of economic facts associated with various phases of Maryland agriculture and economic conditions.

A number of studies were made, including the effect of the drought on the agriculture of the State, income studies by counties, value of agricultural products, relation of agricultural industries to each other, etc.

Crop estimating and crop reporting service for Maryland was greatly improved. The Division of Crop Estimates of the U. S. Department of Agriculture stationed an agricultural statistician at the University of Maryland, who devotes his full time to this line of work in Maryland. It is a pleasure to express the appreciation of the Service for the cordial and able cooperation received from Mr. Richard Ross, the Statistician in Charge.

HOG CHOLERA CONTROL

THE authorities in charge of hog cholera work report that Maryland in 1931, together with many other States, experienced more outbreaks than usual. In this State, about 6.5% of the total hog population, or 10,443 hogs, were involved in the 538 outbreaks reported. It has been reported that the cholera loss in many states has been 70 hogs per 1,000 and over. The loss in Maryland was approximately one-third of this figure. Garbage feeding plants accounted for 97, or approximately 18%, of these outbreaks, and 54.4% of all the hogs involved were in such places.

Only 28, or about 5%, of the outbreaks were secondary or due to a spread of the disease, 499 were primary or new cases, and 11 were of unknown origin. Backyard outbreaks, where a few hogs were kept in a small pen or lot, accounted for 407 cases, 131 occurred on farms where hogs are bred and raised. However, garbage feeding plants were maintained on 30 of these farms. There were, therefore, outbreaks of cholera reported on only 101 farms on which some care was used to maintain sanitary conditions. For the past 9 years, outbreaks on such farms have averaged less than .7 of 1%. The average this year is approximately .5 of 1%.

From a study of the data this year, it was found that 58% of the outbreaks involved 9 hogs or less. When the herd size reaches 30 and over, better conditions usually prevail except in garbage feeding plants. Excluding these latter feeding plants, less than 5.6% of the outbreaks occurred in herds of 30 and over. Apparently there is a direct relation between the size of the herd with its attendant greater investment, and the sanitary precautions used to prevent diseases. In the counties

where a large percentage of the rural population live on farms, only 3.1% of the hogs were exposed to cholera. In the counties adjacent to large cities and having a relatively small percentage of the population living on farms, 12.1% of the hogs were exposed to cholera. This high exposure rate is directly due to the garbage feeding plants and the numerous premises where a few hogs are kept under unsanitary conditions in restricted quarters.

Excellent cooperation between the county agents, interested farmers and veterinarians engaged in the control of hog cholera, aided in keeping losses to the low figure reported.

GENERAL EDUCATIONAL EXTENSION

THE demand for addresses and other work in fields not directly associated with agriculture and home economics continues to increase. The specialist in Extension Education is finding increasing demand for his services and other specialists of the University have been called upon for considerable work in their various lines, including the more general and popular subjects. Several speakers from the Department in Washington, as well as elsewhere, have assisted our local representatives in meeting this rapidly developing desire on the part of our people.

Motion Pictures—No decided change in this field was made during the year. Films were distributed by the Service as heretofore, being secured principally from the U. S. Department of Agriculture. Considerable investigation was made of the possibility and feasibility of using sound films in our work, but circumstances have not permitted the adoption of this up-to-date type of visual instruction.

Radio Activities—As reported elsewhere, the Service extended its radio work to the extent our funds would permit. Greater effort was made to prepare material especially adapted to presentation by radio and to its effective presentation. Response from listeners has increased and it is hoped that our radio service can be extended and more of the time be utilized which commercial broadcasting stations are ready to place at our disposal.

GENERAL ADULT EDUCATION

CHANGING conceptions of education and changing economic conditions are bringing to all educational institutions and agencies an increasing challenge. As employment of mechanical power and labor-saving machinery has reduced the amount of human effort necessary to carry on the ordinary pursuits of life, the additional time that may be employed in other ways affords an opportunity and at the same time creates a tremendous problem.

Adult education in subjects associated more or less closely with agriculture and home economics has been developed to the point that it is recognized as the outstanding work in affording educational opportunities to adults at the present time. Rural people have grasped the opportunities offered them most readily and demand has been greater than could be satisfied by facilities provided. Results achieved in these lines are most gratifying, but I am convinced there is a great field which is virtually untouched. The demand for further education coming from adults in other vocations is constantly increasing and rural people are asking more insistently for education in cultural subjects, such as the arts and sciences.

In response to the many requests received by the Extension Service, we have made a very meagre beginning in offering general adult education. Part-time specialists were employed in two fields—music and the sociological phases of psychology. It is hoped that in the comparatively near future facilities will be offered this Service and this Institution to meet somewhat adequately the evident desire for work in the adult educational field.

MISCELLANEOUS WORK

THE Service wishes to acknowledge the miscellaneous Extension work conducted by specialists connected with other divisions of the Institution. Included among these are Professor J. E. Metzger, Dr. W. B. Kemp, Dr. E. M. Pickens, Mr. Geary Eppley, Professor B. E. Carmichael, Professor L. W. Ingham, Dr. DeVoe Meade, Professor W. E. Hunt, and others. The Service is especially indebted to Dr. H. J. Patterson, Director of the Experiment Station and Dean of the College of

Agriculture, for his cordial support and helpful suggestions at all times.

Letters of Inquiry

There is urgent need for a publication giving concise information regarding agricultural conditions and opportunities in Maryland. A great many letters of inquiry are received from all parts of the United States, coming from persons who are considering purchasing farms and locating in this State. All letters are answered and information is given relative to the soils, climate, location as to markets, transportation facilities, and other factors having a bearing upon the questions. Such correspondence is becoming very heavy and a bulletin giving the agricultural possibilities of Maryland would be of great service and value. It is hoped to prepare such a publication dealing with the State's resources this coming year.

Survey and Development Commission

The Director of Extension serves as a member of the Survey and Development Commission authorized by the Legislature of 1929 and appointed by Governor Ritchie. This Commission works closely with the Baltimore Association of Commerce and various State departments and is endeavoring to conduct a comprehensive survey of the State's resources with a view to their further development.

State Horticultural Department

Administration of the State Horticultural Department has been for many years under the direction of the Extension Service. Such arrangement has proved mutually helpful in carrying on the work. In many cases it is difficult to segregate regulatory features in connection with control of insect pests and plant diseases from the giving of information for their control. These difficulties are obviated when specialists in these fields serve also as officials of the State Horticultural Department. A comprehensive statement of the activities conducted under this Department is submitted in the biennial report to the President.

Exhibits

Attractive exhibits were made at the Timonium Fair and a number of other fairs in the State and the Service cooperated with the florists of Baltimore in conducting a floral exhibit. Numerous requests for work of this type are received each year and it offers great possibilities for expansion as an effective means of visual instruction. It requires considerable effort on the part of our specialists to meet even a portion of the requests now received and to develop the work adequately would require the services of a superintendent in charge and funds to carry on the work.

CONCLUSION

THIS report will serve to give a summary of the activities of the Service in its manifold directions. While the report is sufficiently lengthy, yet there are many features of the work that are very inadequately discussed.

As a rule, we cannot help but feel exceedingly gratified with the progress of affairs in this work. Notwithstanding the severe economic conditions, our people are responding as sympathetically as possible to every request and assistance that our Extension forces are able to present and render.

We are continuing to maintain a County Agent and Home Demonstration Agent in each County of the State with Assistants in a few Counties. It is believed that during these most difficult times the County Agents are rendering greater service to our people than ever before and they are in greater demand by the people than ever before. This is encouraging and stimulating to every member of our force. We are hopeful that our present force may be maintained during 1932.

We have previously mentioned that most harmonious relations exist between the Service, the farm organizations, cooperatives and other agencies in the State. This fact alone promotes efficiency and prevents lost effort.

We believe the outlook for Extension work in Maryland was never brighter and while innumerable adjustments will have to be made to meet present conditions, we feel that these measures in themselves will promote a better system of agriculture and lead to better homes.

The Service is indebted to the officials in charge of Extension Work in the U. S. Department of Agriculture for their splendid and active cooperation. We are likewise indebted to the State farm organizations, Boards of County Commissioners and people of the State for the assistance that they have given in our endeavor to render service in the State.

Finally, I desire to express my deep appreciation to all members of the staff and the office force for their sympathetic cooperation and assistance in directing the work of the Service and to record the grateful appreciation of the Service and writer to President R. A. Pearson for his sympathetic interest and cordial assistance in promoting Extension activities in the State.

FINANCIAL REPORT FOR THE FISCAL YEAR ENDING JUNE 30, 1931

	Federal Funds			Offset Funds	State Offset to Clarke-McNary Forestry Extension Funds
	Smith-Lever	Capper-Ketcham	Additional Cooperative		
DR.					
Unexpended balance from 1929-30	.....	.....	.....	.....	.....
To receipts from the Treasurer of the United States and from State sources as per appropriations for fiscal year ended June 30, 1931	$74,068.49	$25,627.02	$17,000.00	$86,695.51	$1,975.60
CR.					
By personal services	$67,358.36	$25,627.02	$ 8,519.74	$74,625.74	$ 1,125.73
Supplies and materials	234.64	.....	1,243.48	1,465.66	214.15
Communication service	435.87	.....	209.52	1,092.31	103.85
Travel expenses	5,557.52	.....	6,054.85	6,870.59	410.45
Transportation of things (service)	15.52	.....	27.62	1,065.63	1.67
Printing, binding, and cuts for publications	438.15	.....	733.35	1,194.09	117.00
Furnishing of heat, light, power, water, and electricity (service)	.....	.....	18.20	.....	.....
Equipment	28.43	.....	183.24	339.53	2.75
Miscellaneous	.....	.....	10.00	41.96	.....
Total	$74,038.49	$25,627.02	$17,000.00	$86,695.51	$ 1,975.60

SUMMARY STATEMENT OF EXPENDITURES, BY PROJECTS, SHOWING SOURCES OF FUNDS USED FOR

SUMMARY STATEMENT OF EXPENDITURES, BY PROJECTS, SHOWING SOURCES OF FUNDS USED FOR EXTENSION WORK, FISCAL YEAR ENDING JUNE 30, 1931

Projects	Total	Federal Funds			Offset Funds	Funds Not Used As Offset		
		Smith-Lever	Capper-Ketcham	Additional Cooperative		College and State	County	Other
Administration	$15,722.81	$4,388.45	$	$	$6,355.18	$4,779.18	$	$200.00
Publications	11,300.38	3,853.75		1,763.16	3,292.80	2,390.67		
County Agent Work	130,124.46	32,859.38	15,343.92	2,980.95	32,599.21	7,361.23	38,844.00	135.77
Home Demonstration Work	101,423.11	16,295.81	10,283.10	5,723.55	20,431.52	13,953.76	29,478.00	5,257.37
Nutrition	3,058.08	1,255.03			1,755.73	47.32		
Clothing	3,366.22	1,523.42			1,787.21	55.59		
Boys' Club Work	8,548.17	1,825.33			3,294.19	134.95		3,293.70
Agronomy	5,862.64	1,236.72			3,461.42	1,027.30		137.20
Animal Industry	5,480.75	1,516.92			3,014.43	937.86		11.54
Horticulture	8,869.21	4,931.76			3,455.08	476.29		6.08
Dairying	8,498.25	1,964.61			3,085.94	2,955.72		491.98
Rural Organization and Marketing	11,805.20	280.35			1,266.66	10,258.19		
Poultry	5,576.95	346.87			2,896.14	2,323.80		10.14
Entomology	21,127.01	523.37				20,603.64		
Pathology	5,216.54	530.89				4,685.65		
General Educational Extension	1,271.85					1,234.33		37.52
Canning Crops	10,411.42	266.66				10,107.26		37.50
Farm Forestry	2,100.44				1,975.60	99.25		25.59
Poultry Marketing	2,735.92			2,473.29		248.89		13.74
Rural Engineering	2,098.37			953.21		1,145.16		
Crop Statistics	1,681.28			1,672.64		8.64		
Economics and Farm Management	1,433.20			1,433.20				
Apiculture	506.92	469.17				37.75		
Total Expenditures	$368,219.18	$74,068.49	$25,627.02	$17,000.00	$88,671.11	$84,872.43	$68,322.00	$9,658.13

SUMMARY STATEMENT OF EXPENDITURES, BY PROJECTS, SHOWING CLASSIFICATION OF EXPENDITURES FROM ALL FUNDS USED FOR EXTENSION WORK, FISCAL YEAR ENDING JUNE 30, 1931

	Personal Service	Supplies and Materials	Communication Service	Travel Expenses	Transportation of Things	Printing, Binding and Cuts for Publications	Furnishing of Heat, Light, Power and Electricity	Equipment	Miscellaneous	Total
Administration	$8,933.54	$1,325.09	$1,141.91	$201.19	$1,019.98	$.....	$2,700.00	$326.69	$74.41	$15,722.81
Publications	6,454.51	518.90	559.88	56.51	53.04	3,609.49	.....	48.05	.....	11,300.38
County Agent Work	100,797.61	3,583.85	3.96	25,493.28	11.92	.....	18.34	.....	215.50	130,124.46
Home Demonstration Work	74,645.23	4,686.86	48.97	21,847.15	45.11	.....	20.20	95.78	33.81	101,423.11
Nutrition	2,683.33	17.77	1.90	346.58	.50	.....	.....	8.00	.....	3,058.08
Clothing	2,883.33	14.98	.85	455.26	3.92	.....	.....	6.88	1.00	3,366.22
Boys' Club Work	4,188.80	385.69	4.97	3,858.71	.....	.....	.....	.....	110.00	8,548.17
Agronomy	4,153.33	21.66	11.00	1,668.58	8.07	.....	.....	.....	.....	5,862.64
Animal Industry	4,352.95	13.83	6.32	1,095.50	.15	.....	.....	7.00	5.00	5,480.75
Horticulture	7,473.33	43.80	.35	1,296.51	4.24	.....	.....	46.93	4.05	8,869.21
Dairying	6,004.00	7.39	7.00	2,479.63	.23	.....	.....	.....	.....	8,498.25
Rural Organization and Marketing	8,784.03	324.23	324.81	1,709.25	17.54	.....	500.00	145.34	.....	11,805.20
Poultry	4,310.00	84.91	1.30	1,134.63	11.59	.....	.....	34.52	.....	5,576.95
Entomology	14,873.73	794.20	493.40	3,603.67	67.78	.....	.....	1,277.09	17.14	21,127.01
Pathology	3,930.00	104.24	2.95	1,165.36	13.99	.....	.....	.....	.....	5,216.54
General Educational Extension	507.23	139.30	.....	338.68	4.05	.....	.....	.....	282.59	1,271.85
Canning Crops	7,013.87	158.58	241.27	2,302.30	3.23	.....	434.27	109.15	148.75	10,411.42
Farm Forestry	1,125.73	214.15	203.10	436.04	1.67	117.00	.....	2.75	.....	2,100.44
Poultry Marketing	1,800.00	.....	1.50	932.74	.18	.....	.....	.....	1.50	2,735.92
Rural Engineering	1,525.00	33.51	.....	538.92	.94	.....	.....	.....	.....	2,098.37
Crop Statistics	1,340.00	243.85	.....	89.56	5.87	.....	.....	2.00	.....	1,681.28
Economics and Farm Management	1,328.33	.....	.....	.....	.23	.....	.....	104.64	.....	1,433.20
Apiculture	300.00	.....	.....	206.92	.....	.....	.....	.....	.....	506.92
Total Expenditures	$269,407.88	$12,716.79	$3,055.44	$71,256.97	$1,274.23	$3,726.49	$3,672.81	$2,214.82	$893.75	$368,219.18

COUNTY DEMONSTRATION AGENTS—(Continued)

County	Name	Headquarters
Montgomery	*A. A. Ady (Assistant)	Rockville
Prince George's	*W. B. Posey	Upper Marlboro
Prince George's	*Perry E. Clark (Assistant)	Upper Marlboro
Queen Anne's	*E. W. Grubb	Centreville
St. Mary's	*G. F. Wathen	Loveville
Somerset	*C. Z. Keller	Princess Anne
Talbot	*R. S. Brown	Easton
Washington	*M. D. Moore	Hagerstown
Wicomico	*J. P. Brown	Salisbury
Worcester	*R. T. Grant	Snow Hill

LOCAL AGENTS

*J. F. Armstrong (col.)	Southern Maryland	Seat Pleasant
*L. H. Martin (col.)	Eastern Shore	Princess Anne

* In cooperation with the U. S. Department of Agriculture.
† Devoting part time to Extension Work.

COUNTY HOME DEMONSTRATION AGENTS

County	Name	Headquarters
Allegany	*Maude A. Bean	Cumberland
Anne Arundel	*Mrs. Georgiana Linthicum	Annapolis
Baltimore	*Anna Trentham	Towson
Calvert	*Alverta Miller	Prince Frederick
Caroline	*Bessie M. Spafford	Denton
Carroll	*Agnes Slindee	Westminster
Cecil	*Priscilla B. Pancoast	Elkton
Charles	*Mary Graham	La Plata
Dorchester	*Hattie E. Brooks	Cambridge
Frederick	*Helen E. Pearson	Frederick
Frederick	*Ernestine Chubb (Assistant)	Frederick
Garrett	*Margaret Burtis	Oakland
Harford	*Catharine Maurice	Bel Air
Howard	*Myrne Hendry	Ellicott City
Kent	*Helen N. Schellinger	Chestertown
Montgomery	*Blanche A. Corwin	Rockville
Prince George's	*Ethel M. Regan	Hyattsville
Queen Anne's		Centreville
St. Mary's	*Ethel Joy	Leonardtown
Somerset	*Hilda Topfer	Princess Anne
Talbot	*Margaret Smith	Easton
Washington	*Ardath Martin	Hagerstown
Wicomico	*Marian Swanson	Salisbury
Worcester	*Lucy J. Walter	Snow Hill

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Charles and Prince George's	Mrs. Arminta W. Dixon	Washington, D. C.
Somerset	Mrs. Justine Clark	Princess Anne

GARDEN SPECIALIST

Carrollton and Lafayette Aves	Mrs. Adelaide Derringer	Baltimore

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Economics and Farm Management											
Apiculture	1,328.33										
	300.00										
Total Expenditures	$269,407.88	$12,716.79	$3,055.44	$71,256.97	206.92	$1,274.23	$3,726.49	$3,672.81	$2,214.82	$893.75	$368,219.18

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	Personal Service	Supplies and Materials	Communication Service	Travel Expenses	Transportation of Things	Printing, Binding and Cuts for Publications	Furnishing of Heat, Light, Power and Electricity	Equipment	Miscellaneous	Total
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Publications	6,454.51	518.90	559.88	56.51	53.04	3,609.49		48.05		11,300.38
County Agent Work	100,797.61	3,583.85	3.96	25,493.28	11.92		18.34		215.50	130,124.46
Home Demonstration Work	74,645.23	4,686.86	48.97	21,847.15	45.11		20.20	95.78	33.81	101,423.11
Nutrition	2,683.33	17.77	1.90	346.58	.50			8.00		3,058.08
Clothing	2,883.33	14.98	.85	455.26	3.92			6.88	1.00	3,366.22
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Animal Industry	4,352.95	13.83	6.32	1,095.50	.15			7.00	5.00	5,480.75
Horticulture	7,473.33	43.80	.35	1,296.51	4.24			46.93	4.05	8,869.21
Dairying	6,004.00	7.39	7.00	2,479.63	.23					8,498.25
Rural Organization and Marketing	8,784.03	324.23	324.81	1,709.25	17.54		500.00	145.34		11,805.20
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Frederick	*Ernestine Chubb (Assistant)	Frederick
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Economics and Farm Management $269,407.88 | Apiculture 300.00 | 1,328.33 | $12,716.79 | $3,055.44 | 206.92 | $71,256.97 | $3,726.49 | $1,274.23 | $3,672.81 | $2,214.82 | $893.75 | $368,219.18 | 300.92 | Total Expenditures

31

TECHNOLOGY AND SCIENCE ROOM